

CHAPTER 6

FUTURE DIRECTIONS IN THE CANEY FORK RIVER WATERSHED

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6.1. BACKGROUND.

The Watershed Water Quality Management Plan serves as a comprehensive inventory of resources and stressors in the watershed, a recommendation for control measures, and a guide for planning activities in the next five-year watershed cycle and beyond. Water quality improvement will be a result of implementing both regulatory and nonregulatory programs.

In addition to the NPDES program, some state and federal regulations, such as the TMDL and ARAP programs, address point and nonpoint issues. Construction and MS4 stormwater rules (implemented under the NPDES program) are transitioning from Phase 1 to Phase 2. More information on stormwater rules may be found at: <http://www.state.tn.us/environment/wpc/stormh2o/MS4.htm>.

This Chapter addresses point and nonpoint source approaches to water quality problems in the Caney Fork River Watershed as well as specific NPDES permittee information.

6.2. COMMENTS FROM PUBLIC MEETINGS. Watershed meetings are open to the public, and most meetings were represented by citizens who live in the watershed, NPDES permittees, business people, farmers, and local river conservation interests. Locations for meetings were frequently chosen after consulting with people who live and work in the watershed. Everyone with an interest in clean water is encouraged to be a part of the public meeting process. The times and locations of watershed meetings are posted at: <http://www.state.tn.us/environment/wpc/public.htm>.

6.2.A. Year 1 Public Meeting. The first Caney Fork River Watershed public meeting was held April 17, 1997 in Smithville. The goals of the meeting were to 1) present, and review the objectives of, the Watershed Approach, 2) introduce local, state, and federal agency and nongovernment organization partners, 3) review water quality monitoring strategies, and 4) solicit input from the public.

Major Concerns/Comments

- ◆ Wasteload allocations and their use in running models
- ◆ Lake management
- ◆ Communication with citizen groups
- ◆ The effect of naming the Caney Fork River an Outstanding National Resource Water (ONRW)
- ◆ Fish postings

6.2.B. Year 3 Public Meeting. The second Caney Fork River Watershed public meeting was held July 13, 1999 at the Smithville Courthouse. The goals of the meeting were to 1) provide an overview of the watershed approach, 2) review the monitoring strategy, 3) summarize the most recent water quality assessment, 4) discuss the TMDL schedule and citizens' role in commenting on draft TMDLs, and 5) discuss BMPs and other nonpoint source tools available through the Tennessee Department of Agriculture 319 Program and NRCS conservation assistance programs.

Major Concerns/Comments

- ◆ Cows in the creek adding to Nonpoint source pollution
- ◆ Increased discharges to 303(d)-listed streams from a planned industrial development
- ◆ Development by the City of Cookeville around Mine Lick Creek
- ◆ Inadequate protection of sinkholes

6.2.C. Special Meeting Held at Citizens' Request. An additional meeting was held on August 26, 1999 at Putnam County Library (Cookeville) at the request of the Upper Cumberland Sierra Club and Save our Cumberland Mountains (SOCM).

Major Concerns/Comments

- ◆ Concern About Tennessee's nonpoint program located in Department of Agriculture
- ◆ Lack of knowledge of 319 program by Tennessee landowners
- ◆ Lack of monitoring of springs
- ◆ 303(d) List and 305(b) Report should be on TDEC web site

6.2.D. Year 5 Public Meeting. The third scheduled Caney Fork River Watershed public meeting was held October 14, 2003 at the Sparta Civic Center in cooperation with the Cumberland River Compact. The meeting featured six educational components:

- Overview of draft Watershed Water Quality Management Plan slide show
- Benthic macroinvertebrate samples and interpretation
- SmartBoard™ with interactive GIS maps
- "How We Monitor Streams" self-guided slide show
- "Why We Do Biological Sampling" self-guided slide show
- Citizen Group Display (Cumberland River Compact)
- University display (Tennessee Technological University)

In addition, citizens had the opportunity to make formal comments on the draft Watershed Water Quality Management Plan and to rate the effectiveness of the meeting.

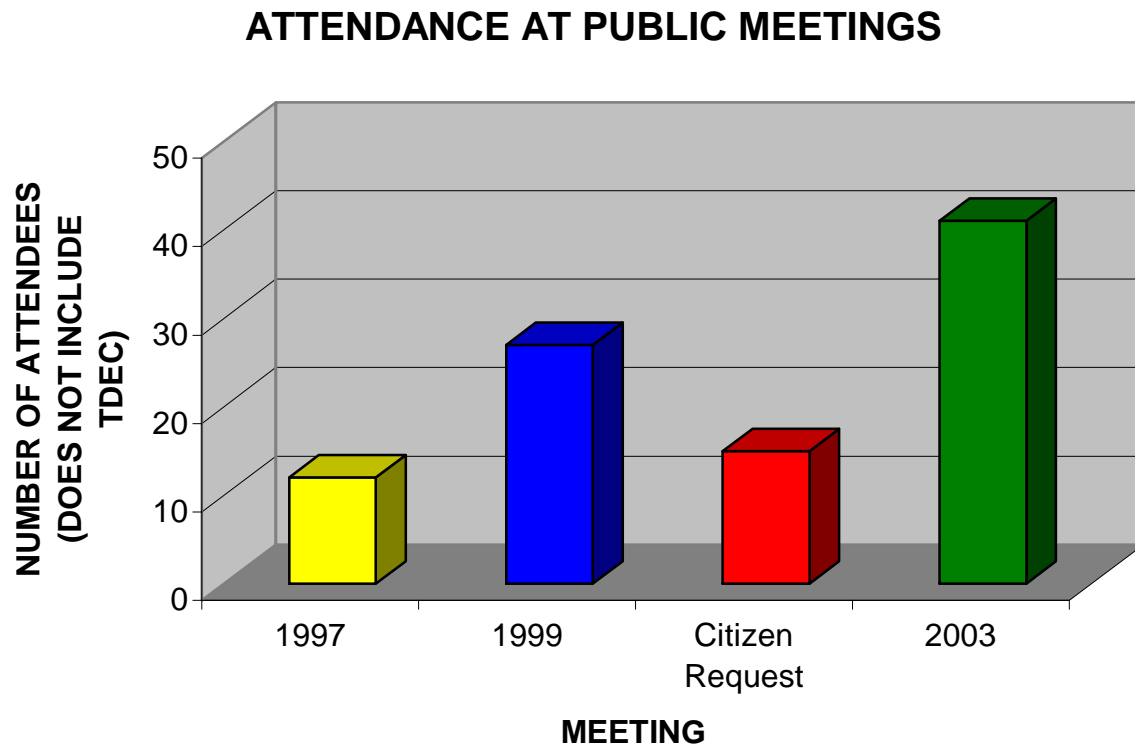


Figure 6-1. Attendance at Public Meetings in the Caney Fork River Watershed. The 1997 and 1999 watershed meeting numbers represent Caney Fork River and Collins River Watersheds joint meetings. The 2003 Caney Fork River Watershed meeting was held in cooperation with the Cumberland River Compact.



Figure 6-2. Environmental Specialist Jimmy Smith helps students learn about the relationship between aquatic insects and water quality at the Caney Fork River Watershed public meeting (photo courtesy of Karen Smith/Cumberland River Compact).

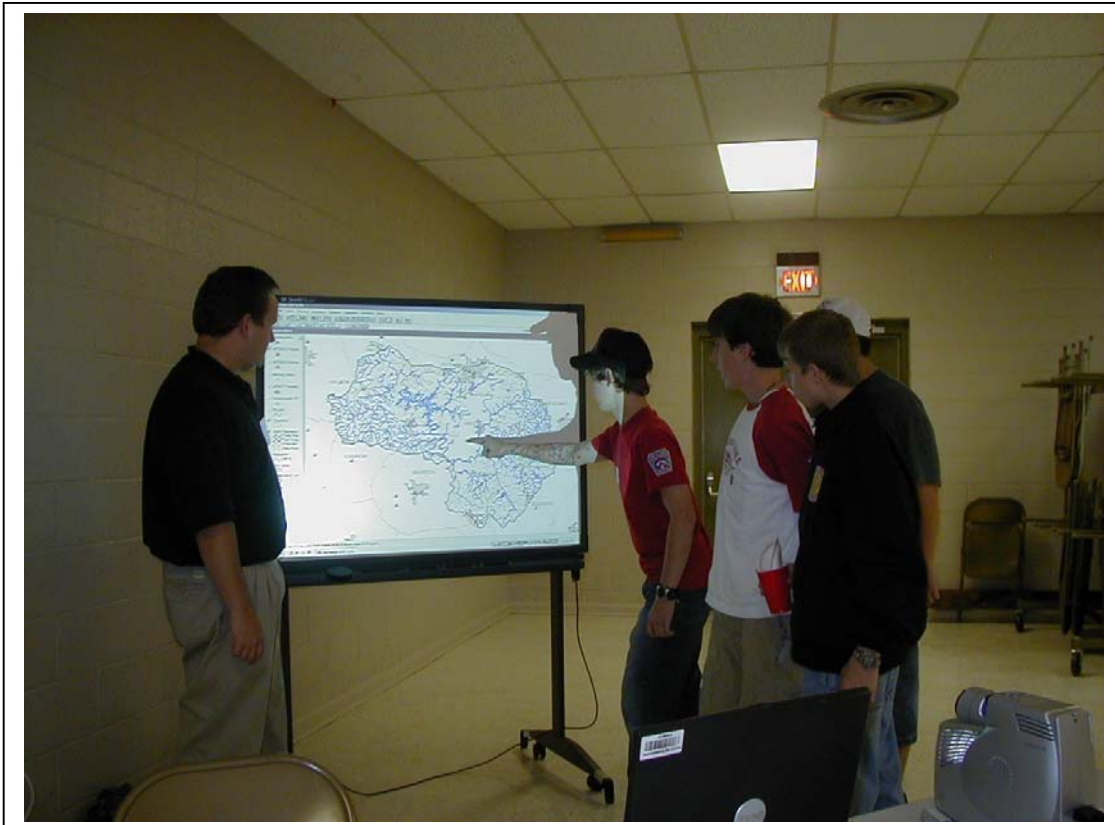


Figure 6-3. The SmartBoard™ is an effective interactive tool to teach citizens about the power of GIS (photo courtesy of Karen Smith/Cumberland River Compact).



Figure 6-4. Watershed meetings are an effective way to communicate Water Pollution Control's activities to elected officials, like Mayor Womack of Cookeville and White County Executive Sullivan (photo courtesy of Karen Smith/Cumberland River Compact).

6.3. APPROACHES USED.

6.3.A. Point Sources. Point source contributions to stream impairment are primarily addressed by NPDES and ARAP permit requirements and compliance with the terms of the permits. Notices of NPDES and ARAP draft permits available for public comment can be viewed at <http://www.state.tn.us/environment/wpc/wpcppo/>. Discharge monitoring data submitted by NPDES-permitted facilities may be viewed at http://www.epa.gov/enviro/html/pes/pes_query_java.html.

The purpose of the TMDL program is to identify remaining sources of pollution and allocate pollution control needs in places where water quality goals are still not being achieved. TMDL studies are tools that allow for a better understanding of load reductions necessary for impaired streams to return to compliance with water quality standards. More information about Tennessee's TMDL program may be found at: <http://www.state.tn.us/environment/wpc/tmdl.php>

TMDLs are prioritized for development based on many factors.

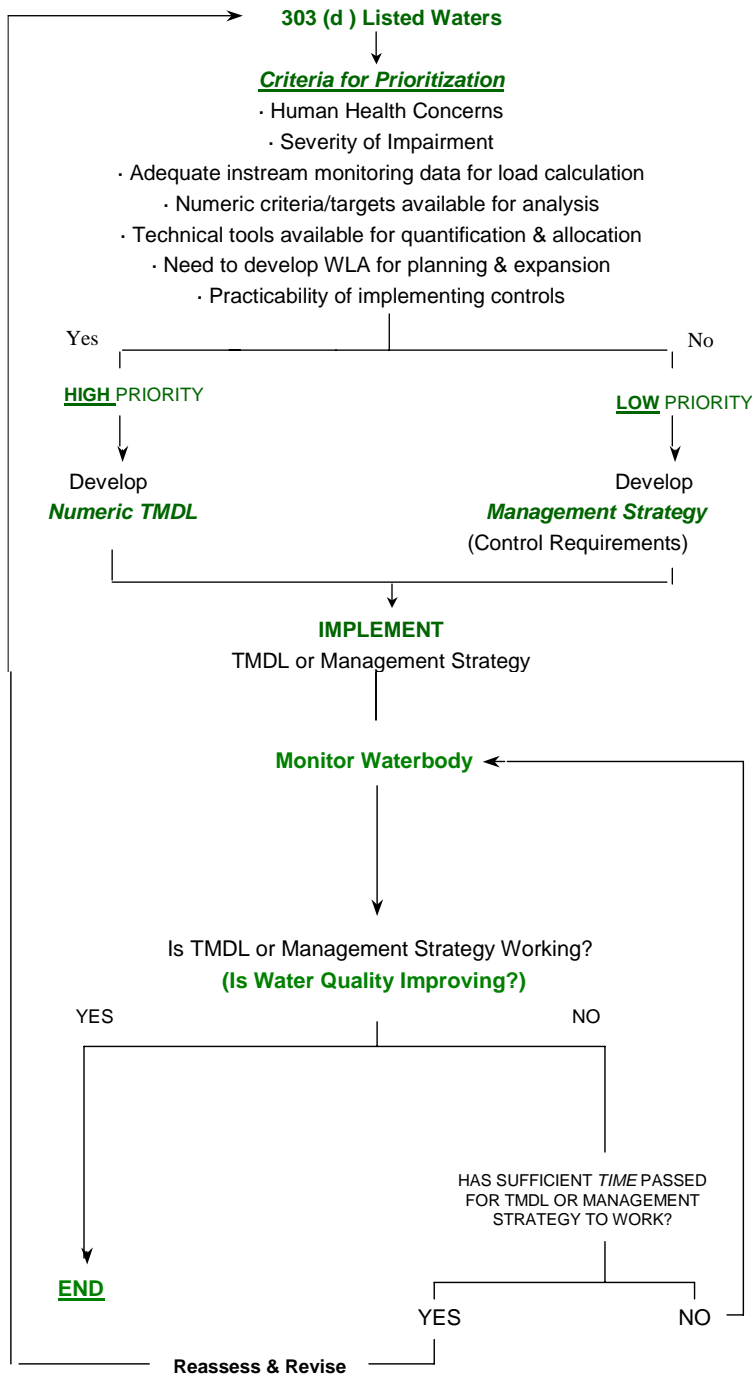


Figure 6-5. Prioritization scheme for TMDL Development.

6.3.B. Nonpoint Sources

Common nonpoint sources of pollution include urban runoff, riparian vegetation removal, and inappropriate land development, agricultural, and road construction practices. Since nonpoint pollution exists essentially everywhere rain falls and drains to a stream, existing point source regulations can have only a limited effect, so other measures are necessary.

There are several state and federal regulations that address some of the contaminants impacting waters in the Caney Fork River Watershed. Some of these are limited to only point sources: a pipe or ditch. Often, controls of point sources are not sufficient to protect waters, so other measures are necessary. Some measures include voluntary efforts by landowners and volunteer groups, while others may involve new regulations. Many agencies, including the Tennessee Department of Agriculture and NRCS, offer financial assistance to landowners for corrective actions (like Best Management Practices) that may be sufficient for recovery of impacted streams. Many nonpoint problems will require an active civic involvement at the local level geared towards establishment of improved zoning guidelines, building codes, streamside buffer zones and greenways, and general landowner education.

The following text describes certain types of impairments, causes, suggested improvement measures, and control strategies. The suggested measures and streams are only examples and efforts should not be limited to only those streams and measures mentioned.

6.3.B.i. Sedimentation.

6.3.B.i.a. From Construction Sites. Construction activities have historically been considered “nonpoint sources.” In the late 1980’s, EPA designated them as being subject to NPDES regulation if more than 5 acres are disturbed. In the spring of 2003, that threshold became 1 acre. The general permit issued for such construction sites sets out conditions for maintenance of the sites to minimize pollution from stormwater runoff, including requirements for installation and inspection of erosion controls. Also, the general permit imposes more stringent inspection and self-monitoring requirements on sites in the watershed of streams that are already impaired due to sedimentation. Examples in the Caney Fork River Watershed include the Rocky River and Hudgens Creek. Regardless of the size, no construction site is allowed to cause a condition of pollution.

Construction sites within a sediment-impaired watershed may also have higher priority for inspections by WPC personnel, and are likely to have enforcement actions for failure to control erosion. Historically, construction activities have not been a large source of the sediment problems within the Caney Fork River Watershed, due to its sparsely populated nature. However, in recent years, there has been an increase in both population and construction activities in the area.

6.3.B.i.b. From Channel and/or Bank Erosion. Many streams within the Caney Fork Watershed suffer from varying degrees of streambank erosion. When stream channels are altered, or large tracts of land are cleared, leading to increased stream runoff, banks can become unstable and highly erodable. Heavy livestock traffic can also severely disturb banks. Destabilized banks contribute sediment load and lose riparian vegetation. This cycle is especially problematic in certain areas of the Caney Fork River Watershed where the very sandy plateau soils and shallow rooted trees are especially vulnerable. Most of the land and channel alterations center around agricultural practices or mining operations.

Several agencies such as the NRCS and TDA, as well as watershed citizen groups, are working to stabilize portions of stream banks using bioengineering and other techniques. Many of the affected streams, like Smith Fork, could benefit from these types of projects. Other methods or controls that might be necessary to address common problems are:

Voluntary activities

- Re-establishment of bank vegetation (examples: Reestablishment of bank vegetation (examples: Post Oak Creek, and upper portions of Falling Water River).
- Establish buffer zones along streams running through crop fields or nurseries (example: Bee Creek).
- Establish off channel watering areas for cattle by moving watering troughs and feeders back from stream banks (examples: Blue Springs Branch and Snow Creek).
- Limit cattle access to streams and bank vegetation (examples: Beaverdam and Little Beaverdam Creeks).

Additional strategies

- Better community planning for the impacts of development on small streams, especially development in growing areas (example: small streams in and around Cookeville, Smithville, and Sparta).
- Restrictions requiring post construction run-off rates to be no greater than pre-construction rates in order to avoid in-channel erosion, (example: Hudgens Creek).
- Additional restrictions on logging in streamside management zones.
- Prohibition on clearing of stream and ditch banks (example: Hickman Creek).
Note: Permits may be required for work along streams.
- Additional restriction to road and utilities crossings of streams.
- Restrictions on the use of off-highway vehicles on stream banks and in stream channels.

6.3.B.i.c. From Agriculture and Silviculture. Even though there is an exemption in the Water Quality Control Act which states that normal agricultural and silvicultural practices which do not result in a point source discharge do not have to obtain a permit, efforts are being made to address impacts due to these practices.

The Master Logger Program has been in place for several years to train loggers how to plan their logging activities and to install Best management Practices that lessen the impact of logging activities. Recently, laws and regulations were enacted which

established the expected BMPs to be used and allows the Commissioners of the Departments of Environment and Conservation and of Agriculture to stop a logging operation that has failed to install these BMPs and so are impacting streams. Currently, Mill Branch is the only stream in the watershed to have Department of Correction-impacted impacts from logging operations. Large tracts of land in the upper portion of the Caney Fork River Watershed remain forested, so the potential for future impacts may be high and need to be carefully monitored.

Since the Dust Bowl era, the agriculture community has strived to protect the soil from wind and soil erosion. Agencies such as the Natural Resources Conservation Service (NRCS), the University of Tennessee Agricultural Extension Service, and the Tennessee Department of Agriculture have worked to identify better ways of farming, to educate the farmers, and to install the methods that address the sources of some of the impacts due to agriculture. Cost sharing is available for many of these measures. Of special concern in the Caney Fork River Watershed is the expanding nursery industry around Smithville.

Many sediment problems traceable to agricultural practices also involve riparian loss due to close row cropping or pasture clearing for grazing. Agriculturally impacted streams which could benefit from the establishment of riparian buffer zones include Bee Creek, Rock Spring Branch, Hickory Valley Branch, Smith Fork, Bates Branch, Saint Mary's Branch, Bradden Creek, and Post Oak Creek.

6.3.B.ii. Pathogen Contamination.

Possible sources of pathogens are inadequate or failing septic tank systems, overflows or breaks in public sewer collection systems, poorly disinfected discharges from sewage treatment plants, and fecal matter in streams and storm drains due to pets, livestock and wildlife. Permits issued by the Division of Water Pollution Control regulate discharges from point sources and require adequate control for these sources. Individual homes are required to have subsurface, on-site treatment (i.e., septic tank and field lines) if public sewers are not available. Septic tank and field lines are regulated by the Division of Ground Water Protection within Cookeville Environmental Assistance Center and delegated county health departments. In addition to discharges to surface waters, businesses may employ either subsurface or surface disposal of wastewater. The Division of Water Pollution Control regulates surface disposal.

Currently, only three stream systems in the Caney Fork River Watershed are known to have excessive pathogen contamination. These are Fall Creek (Smithville), Pigeon Roost Creek (Cookeville), and Mine Lick Creek (Baxter). All three are centered around urban areas, with varying contributions of bacterial contamination coming from stormwater runoff, failing septic systems, sewage collection system leaks, and treatment plant operation leaks.

Other measures that may be necessary to control pathogens are:

Voluntary activities

- Limiting livestock access to streams, including use of off-channel watering of livestock (see previous examples).
- Proper management of animal waste from feeding operations.

- Better maintenance of subsurface disposal systems.

Enforcement strategies

- Greater enforcement of regulations governing on-site wastewater treatment.
- Timely and appropriate enforcement for non-complying sewage treatment plants, large and small, and their collection systems.
- Identification of Concentrated Animal Feeding Operations not currently permitted, and enforcement of current regulations.

Additional strategies

- Restrict development in areas where sewer is not available and treatment by subsurface disposal is not an option due to poor soils, floodplains, or high water tables. This is particularly important in the Caney Fork River Watershed, given the geology of the Cumberland Plateau and Escarpment.
- Develop and enforce leash laws and controls on pet fecal material in areas with higher population densities.
- More efforts by local urban public works and utilities to identify and control contaminated stormwater runoff sources entering storm sewer systems.

6.3.B.iii. Excessive Nutrients and/or Dissolved Oxygen Depletion.

These two impacts are usually listed together because high nutrients often contribute to low dissolved oxygen within a stream. Since nutrients often have the same source as pathogens, the measures previously listed can also address many of these problems. Elevated nutrient loadings are also often associated with urban runoff from impervious surfaces, from fertilized lawns and croplands, and faulty sewage disposal processes.

Other sources of nutrients can be addressed by:

Voluntary activities

- Educate homeowners and lawn care companies in the proper application of fertilizers.
- Encourage landowners, developers, and builders to leave stream buffer zones (examples of streams that could benefit are Wolf Creek and Ferguson Branch). Streamside vegetation can filter out many nutrients and other pollutants before they reach the stream. These riparian buffers are also vital along livestock pastures. Beaverdam Creek, Bradden Creek, and Smith Fork could benefit from buffer zones to grazing areas.
- Use grassed drainage ways that can remove fertilizer before it enters streams.
- Use native plants for landscaping since they don't require as much fertilizer and water.

Physical changes to streams can prevent them from providing enough oxygen to biodegrade the materials that are naturally present. A few additional actions can address this problem:

- Maintain shade over a stream. Cooler water can hold more oxygen and retard the growth of algae. As a general rule, all stream channels suffer from some

canopy removal. An intact riparian zone also acts as a buffer to filter out nutrient loads before they enter the water.

- Discourage impoundments. Ponds and lakes do not aerate water. Fall Creek (below Smithville) has suffered from an impoundment. *Note: Permits may be required for any work on a stream, including impoundments.*

Regulatory strategies.

- Greater enforcement of regulations governing on-site wastewater treatment.
- More stringent permit limits for nutrients discharged from sewage treatment plants (including Hickman Creek, Falling water River, Pigeon Roost Creek, and Fall Creek).
- Timely and appropriate enforcement for noncomplying sewage treatment plants, large and small, and their collection system.
- Identification of Concentrated Animal Feeding Operations not currently permitted, and enforcement of current regulations.

6.3.B.iv. Toxins and Other Materials.

Although some toxic substances are discharged directly into waters of the state from a point source, much of these materials are washed in during rainfalls from an upland location, or via improper waste disposal that contaminates groundwater. In the Caney Fork River Watershed, a relatively small number of streams are damaged by stormwater runoff from industrial facilities or urban areas. More stringent inspection and regulation of permitted industrial facilities, and local stormwater quality initiatives and regulations, could help reduce the amount of contaminated runoff reaching state waters. Examples of streams that could benefit from these measures include the many small, urbanized tributaries feeding Pigeon Roost Creek, Falling Water River, Hickman Creek and Mine Lick Creek.

Many materials enter our streams due to apathy, or lack of civility or knowledge by the public. Litter in roadside ditches, garbage bags tossed over bridge railings, paint brushes washed off over storm drains, and oil drained into ditches are all examples of pollution in streams. Some can be addressed by:

Voluntary activities

- Providing public education.
- Painting warnings on storm drains that connect to a stream.
- Sponsoring community clean-up days.
- Landscaping of public areas.
- Encouraging public surveillance of their streams and reporting of dumping activities to their local authorities.

Needing regulation

- Prohibition of illicit discharges to storm drains.
- Litter laws and strong enforcement at the local level.

6.3.B.v. Habitat Alteration.

The alteration of the habitat within a stream can have severe consequences. Whether it is the removal of the vegetation providing a root system network for holding soil particles together, the release of sediment, which increases the bed load and covers benthic life and fish eggs, the removal of gravel bars (like in the Rocky River), cleaning out creeks with heavy equipment, or the impounding of the water in ponds and lakes, many alterations impair the use of the stream for designated uses. Habitat alteration also includes the draining or filling of wetlands.

Measures that can help address this problem are:

Voluntary activities

- Organizing stream cleanups removing trash, limbs and debris before they cause blockage.
- Avoiding use of heavy equipment to clean out streams (Hickman and Indian Creek have suffered from such activities).
- Planting vegetation along streams to stabilize banks and provide habitat (nearly all streams could benefit from this).
- Encouraging developers to avoid extensive culverts in streams.

Current regulations

- Restrict modification of streams by such means as culverting, lining, or impounding. Streams such as Fall Creek (in Fall Creek Falls State Park) and Fall Creek near Smithville are two examples of the impact impoundments can have, especially in the iron-rich soils of the Cumberland Plateau.
- Require mitigation for impacts to streams and wetlands when modifications are allowed. As an example, Center Hill Dam, like most large dams, has chronically caused serious impacts to the Caney Fork River in the downstream tailwater from low oxygen levels and unnatural thermal and flow alterations.

Additional Enforcement

- Increased enforcement may be needed when violations of current regulations occur.

6.3.B.v. Acid Mine Runoff.

The Cumberland Plateau has had a long history of coal mining, much of which was done prior to any type of environmental regulation. Unfortunately, the legacy of many of these old mining sites is severe impacts to the streams that drain them in the form of pollution from metals and low pH from sulfuric acid.

Streams that would benefit from remediation projects include the portions of the Rocky River, Gardner Creek, Piney Creek, Dry Fork Creek, Clifty Creek, Milsea Branch, and Puncheon camp Creek.

6.4. PERMIT REISSUANCE PLANNING

Under the *Tennessee Water Quality Control Act*, municipal, industrial and other dischargers of wastewater must obtain a permit from the Division. Approximately 1,700 permits have been issued in Tennessee under the federally delegated National Pollutant Discharge Elimination System (NPDES). These permits establish pollution control and monitoring requirements based on protection of designated uses through implementation of water quality standards and other applicable state and federal rules.

The following three sections provide specific information on municipal, industrial, and water treatment plant active permit holders in the Caney Fork River Watershed. Compliance information was obtained from EPA's Permit Compliance System (PCS). All data was queried for a five-year period between January 1, 2001 and December 31, 2006. PCS can be accessed publicly through EPA's Envirofacts website. This website provides access to several EPA databases to provide the public with information about environmental activities that may affect air, water, and land anywhere in the United States:

http://www.epa.gov/enviro/html/ef_overview.html

Stream Segment information, including designated uses and impairments, are described in detail in Chapter 3, *Water Quality Assessment of the Caney Fork River Watershed*.

6.4.A. Municipal Permits.

TN0021539 Alexandria Sewage Treatment Plant

Discharger rating: Minor
City: Alexandria
County: DeKalb
EFO Name: Cookeville
Issuance Date: 1/1/03
Expiration Date: 9/30/07
Receiving Stream(s): Hickman Creek at mile 13.1
HUC-12: 051301080807
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Sequencing batch reactor with post equalization and UV disinfection. Sludge is aerobically digested and dewatered for landfilling.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	2.2	DMax Conc	mg/L	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	1.1	WAvg Conc	mg/L	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	1.7	MAvg Conc	mg/L	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	4.2	DMax Load	lb/day	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	2.8	MAvg Load	lb/day	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	7.4	DMax Conc	mg/L	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	3.7	WAvg Conc	mg/L	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	5.6	MAvg Conc	mg/L	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	14	DMax Load	lb/day	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	9.3	MAvg Load	lb/day	Weekly	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		MAvg Load	Occurrences/Month	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	DMin % Removal	Percent	Weekly	Calculated	Percent Removal
CBOD % Removal	All Year	85	MAvg % Removal	Percent	Weekly	Calculated	Percent Removal
CBOD5	Summer	20	DMax Conc	mg/L	Weekly	Composite	Effluent
CBOD5	Summer	15	MAvg Conc	mg/L	Weekly	Composite	Effluent
CBOD5	Summer	10	DMin Conc	mg/L	Weekly	Composite	Effluent
CBOD5	Summer	37.5	DMax Load	lb/day	Weekly	Composite	Effluent
CBOD5	Summer	25	MAvg Load	lb/day	Weekly	Composite	Effluent
CBOD5	Winter	30	DMax Conc	mg/L	Weekly	Composite	Effluent
CBOD5	Winter	20	DMin Conc	mg/L	Weekly	Composite	Effluent
CBOD5	Winter	25	MAvg Conc	mg/L	Weekly	Composite	Effluent
CBOD5	Winter	62.6	DMax Load	lb/day	Weekly	Composite	Effluent
CBOD5	Winter	50	MAvg Load	lb/day	Weekly	Composite	Effluent
D.O.	All Year	6	DMin Conc	mg/L	Weekdays	Grab	Effluent
E. coli	All Year	126	MAvg Geo Mean	#/100mL	3/Week	Grab	Effluent
Fecal Coliform	All Year	1000	DMax Conc	#/100mL	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	MAvg Geo Mean	#/100mL	Weekly	Grab	Effluent
Overflow Use Occurences	All Year		MAvg Load	Occurrences/Month	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		MAvg Load	Occurrences/Month	Continuous	Visual	Non Wet Weather

Table 6-1a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Settleable Solids	All Year	1	DMax Conc	mL/L	Weekly	Composite	Effluent
TRC	All Year	0.02	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	Weekly	Composite	Effluent
TSS	All Year	40	MAvg Conc	mg/L	Weekly	Composite	Effluent
TSS	All Year	30	WAvG Conc	mg/L	Weekly	Composite	Effluent
TSS	All Year	100	DMax Load	lb/day	Weekly	Composite	Effluent
TSS	All Year	75	MAvg Load	lb/day	Weekly	Composite	Effluent
TSS % Removal	All Year	40	DMin % Removal	Percent	Weekly	Calculated	Percent Removal
TSS % Removal	All Year	85	MAvg % Removal	Percent	Weekly	Calculated	Percent Removal
pH	All Year	8.5	DMax Conc	SU	Weekdays	Grab	Effluent
pH	All Year	6.5	DMin Conc	SU	Weekdays	Grab	Effluent

Table 6-1b.

Tables 6-1a-b. Permit Limits for Alexandria Sewage Treatment Plant.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 6 Dissolved Oxygen
- 6 TSS
- 4 pH
- 11 Ammonia
- 8 Fecal coliform
- 5 Chlorine
- 9 CBOD
- 9 COD
- 8 Suspended Solid % Removal
- 4 Overflows
- 5 Bypasses

Enforcement:

Commissioner's Order #02-0252

Database Notes:

NPDES Parameter Violations. Commissioner's Order drafted for non-compliance with Director's Order #00-019D.

12/9/02 Plant complete.

6/9/03 NOV sent for failure to comply with items 4 and 5 of order.

7/2/03 Meeting at Central office. They will send us a letter by end of July to propose amendment to order that addresses issues with collection system that are realistic for the city.

7/28/03 Proposed amendments to Order received.

8/13/03 Letter to Alexandria noting deficiencies in their proposal of 7/28/03.

11/6/03 Letter received informing division that Respondents are retaining HKA as engineering consultants.

Received phone call from City Attorney notifying WPC that the town had hired an individual to be trained as back-up operator.

01/22/04 Received letter with Study Proposal Addressing the Collection System Upgrade.

Submitted Sewer Collection System Rehabilitation Study (SCSRS) on 5/25/04.
Plans and specs for cleaning and televising 8,850' (first phase of CAP) received on 5/25/05.

EFO Comments:

The system is relatively new. The operator complains that his equalization basin causes the plant to lose effluent quality. Inflow and Infiltration (I/I) problems do exist.

TN0024490 Tennessee Department of Tourism I-40 Rest Area

Discharger rating: Minor
City: Buffalo Valley
County: Smith
EFO Name: Cookeville
Issuance Date: 6/28/02
Expiration Date: 8/30/07
Receiving Stream(s): Caney Fork River at mile 20.5
HUC-12: 051301080805
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Recirculating Sand Filter with ultraviolet disinfection

Segment	TN05130108012_1000
Name	Caney Fork River
Size	6.4
Unit	Miles
First Year on 303(d) List	1990
Designated Uses	Domestic Water Supply (Supporting), Industrial Water Supply (Supporting), Fish and Aquatic Life (Non-Supporting), Recreation (Not Assessed), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	Low flow alterations, Temperature, water, Oxygen, Dissolved
Sources	Upstream Impoundments (e.g., PI-566 NRCS Structures)

Table 6-2. Stream Segment Information for Tennessee Department of Tourism I-40 Rest Area.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
CBOD5	All Year	40	DMax Conc	mg/L	2/Month	Grab	Effluent
CBOD5	All Year	25	MAvg Conc	mg/L	2/Month	Grab	Effluent
D.O.	All Year	1	DMin Conc	mg/L	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	DMax Conc	#/100mL	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	MAvg Geo Mean	#/100mL	2/Month	Grab	Effluent
Settleable Solids	All Year	1	DMax Conc	mL/L	2/Week	Grab	Effluent
TRC	All Year	2	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	2/Month	Grab	Effluent
TSS	All Year	30	MAvg Conc	mg/L	2/Month	Grab	Effluent
pH	All Year	9	DMax Conc	SU	2/Week	Grab	Effluent
pH	All Year	6	DMin Conc	SU	2/Week	Grab	Effluent

Table 6-3. Permit Limits for Tennessee Department of Tourism I-40 Rest Area.

EFO Comments:

TDOT Property, the Rest Area /Welcome Center is operated by the Department of Tourism. The receiving stream is the Caney Fork, several miles down stream of the Center Hill Dam. The facility has problems with loading and high ammonia. A new "no discharge" facility is in the planning stages. This section of the river is known as a stocked trout fishery and is scenic. Traffic and visitors are increasing yearly. The high ammonia releases are of concern.

TN0021121 Baxter Sewage Treatment Plant

Discharger rating: Minor
City: Baxter
County: Putnam
EFO Name: Cookeville
Issuance Date: 4/28/06
Expiration Date: 4/30/07
Receiving Stream(s): Caney Fork River at mile 20.5
HUC-12: 051301080803
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: WAS to aerobic digesters to land application sites

Segment	TN05130108097_2000
Name	Mine Lick Creek
Size	4.23
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Irrigation (Supporting), Recreation (Non-Supporting), Fish and Aquatic Life (Non-Supporting), Livestock Watering and Wildlife (Supporting)
Causes	Nitrates, Escherichia coli
Sources	Sanitary Sewer Overflows (Collection System Failures)

Table 6-4. Stream Segment Information for Baxter Sewage Treatment Plant.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	2	DMax Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1	MAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1.5	WAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	6	WAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	4	MAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	4	DMax Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	2	MAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	3	WAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	13	WAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	8	MAvg Load	lb/day	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		MAvg Load		Continuous	Visual	Effluent
CBOD % Removal	All Year	40	DMin % Removal	Percent	3/Week	Calculated	% Removal
CBOD % Removal	All Year	85	MAvg % Removal	Percent	3/Week	Calculated	% Removal
CBOD5	All Year	35	DMax Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year	30	WAvg Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year	20	MAvg Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year	125	WAvg Load	lb/day	3/Week	Composite	Effluent
CBOD5	All Year	83	MAvg Load	lb/day	3/Week	Composite	Effluent
D.O.	All Year	6	DMin Conc	mg/L	Weekdays	Grab	Effluent
E. coli	All Year	126	MAvg Geo Mean	#/100mL	3/Week	Grab	Effluent
E. coli	All Year	941	DMax Conc	#/100mL	3/Week	Grab	Effluent
Overflow Use Occurences	All Year		MAvg Load		Continuous	Visual	Wet Weather

Table 6-5a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Overflow Use Occurences	All Year		MAvg Load		Continuous	Visual	Non Wet Weather
Overflow Use Occurences	All Year		MAvg Conc				Effluent
Settleable Solids	All Year	1	DMax Conc	mL/L	3/Week	Composite	Effluent
TRC	All Year	0.02	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	40	WAvG Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	30	MAvg Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	167	WAvG Load	lb/day	3/Week	Composite	Effluent
TSS	All Year	125	MAvg Load	lb/day	3/Week	Composite	Effluent
TSS % Removal	All Year	40	DMin % Removal	Percent	3/Week	Calculated	% Removal
TSS % Removal	All Year	85	MAvg % Removal	Percent	3/Week	Calculated	% Removal
pH	All Year	9	DMax Conc	SU	Weekdays	Grab	Effluent
pH	All Year	6.5	DMin Conc	SU	Weekdays	Grab	Effluent

Table 6-5b.

Tables 6-5a-b. Permit limits for Baxter Sewage Treatment Plant.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 3 Chlorine
- 1 pH
- 1 Ammonia
- 2 CBOD
- 3 bypasses

EFO Comments:

The system is currently on a “self imposed moratorium”. Receiving stream - Mine Lick Branch is 303(d) listed for sewerage due to collection system failures. The City of Baxter is currently working on the collection system issues. The Waste Water Treatment Plant is in good condition.

TN0064688 Monterey Waste Water Treatment Plant

Discharger rating: Major
City: Monterey
County: Putnam
EFO Name: Cookeville
Issuance Date: 10/31/05
Expiration Date: 12/31/07
Receiving Stream(s): Unnamed ditch at mile 0.4 to Falling Water River at mile 46.1
HUC-12: 051301080701
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Treated municipal wastewater; treated sludge is land appl.

Segment	TN05130108045_3000
Name	Falling Water River
Size	11.2
Unit	Miles
First Year on 303(d) List	1990
Designated Uses	Fish and Aquatic Life (Non-Supporting), Recreation (Not Assessed), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	Nutrient/Eutrophication Biological Indicators, Oxygen, Dissolved
Sources	Municipal Point Source Discharges

Table 6-6. Stream Segment Information for Monterey Waste Water Treatment Plant.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	1.4	DMax Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	0.7	MAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1	WAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	8	WAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	6	MAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	2.4	DMax Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	1.2	MAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	1.8	WAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	15	WAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	10	MAvg Load	lb/day	3/Week	Composite	Effluent
CBOD % Removal	All Year	40	DMin % Removal	Percent	3/Week	Calculated	Percent Removal
CBOD % Removal	All Year	85	MAvg % Removal	Percent	3/Week	Calculated	Percent Removal
CBOD5	All Year	40	DMax Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year	35	WAvg Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year	25	MAvg Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year	292	WAvg Load	lb/day	3/Week	Composite	Effluent
CBOD5	All Year	209	MAvg Load	lb/day	3/Week	Composite	Effluent
D.O.	All Year	6	DMin Conc	mg/L	Weekdays	Grab	Effluent
E. coli	All Year	941	DMax Conc	#/100mL	3/Week	Grab	Effluent
E. coli	All Year	126	MAvg Geo Mean	#/100mL	3/Week	Grab	Effluent

Table 6-7a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
IC25 7day Ceriodaphnia Dubia	All Year	100	DMin Conc	Percent	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	100	DMin Conc	Percent	Quarterly	Composite	Effluent
Settleable Solids	All Year	1	DMax Conc	mL/L	3/Week	Composite	Effluent
TKN - Total Kjeldahl Nitrogen	All Year	10	MAvg Conc	mg/L	2/Month	Composite	Effluent
TKN - Total Kjeldahl Nitrogen	All Year	83	MAvg Load	lb/day	2/Month	Composite	Effluent
TRC	All Year	0.02	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	40	WAvg Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	30	MAvg Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	334	WAvg Load	lb/day	3/Week	Composite	Effluent
TSS	All Year	250	MAvg Load	lb/day	3/Week	Composite	Effluent
TSS % Removal	All Year	40	DMin % Removal	Percent	3/Week	Calculated	Percent Removal
TSS % Removal	All Year	85	MAvg % Removal	Percent	3/Week	Calculated	Percent Removal
pH	All Year	8.5	DMax Conc	SU	Weekdays	Grab	Effluent
pH	All Year	6.5	DMin Conc	SU	Weekdays	Grab	Effluent

Table 6-7b.

Tables 6-7a-b. Permit Limits for Monterey Waste Water Treatment Plant.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 10 Ammonia
- 2 Chlorine
- 1 TSS
- 18 Nitrate
- 155 Overflows
- 122 Bypasses

Enforcement:

Agreed Order #02-0154

Database Notes: Order addresses several years of permit violations including overflows. Moratorium is imposed.

Spoke with Cookeville EFO on 10/26/05 - Said that Monterey will conduct I&I flow study in Spring of 2006. They will remain under moratorium until then. However, Purdue is expanding and planning on hooking up soon - will need to schedule meeting with Purdue and Monterey.

9/21/06 Municipal Facilities Section wrote the city a letter allowing the moratorium relief of 35,000 gallons.

NOV issued for overflow discharge on 09/19/06.

EFO Comments:

City of Monterey has operated under an Agreed Order #02-0154 since 2004. The compliance schedule was followed and periodical compliance review meetings with all

parties have been conducted. Engineering plans and reports detailing the I/I removal and collection system rehabilitation work have been reviewed. Semiannual progress reports have been reviewed and discussed. Compliance with the moratorium has been tracked and enforced. Compliance Biomonitoring Inspection was completed in February 2006 (no toxic effects). Ammonia violations experienced at the Monterey Waste Water Treatment Plant are function of local limit violations by Purdue Farms Inc. Tim Hedgecough is now grade 4 certified operator. The NPDES permit has been modified to reflect the current Water Quality Criteria and remove the Fecal coliform monitoring requirement. Sludge is anaerobically digested and land applied as liquid. New sludge application site has been evaluated and approved. Chronic overflows continue at Johnson Avenue pump station and at the Old plant pump station. The overflows at the Old Plant are metered. Engineering study is underway to evaluate the dynamics of pump station interaction and effects under surcharged conditions. Monterey is evaluating the nitrate limit and nitrate removal in the wastewater plant as it relates to synergistic effects of biological treatment in Purdue Farms Inc.

Monterey Pretreatment Program

Pretreatment in Monterey takes considerable involvement, as Purdue Farms constitutes large portion of the dry weather flow to the Sewage Treatment Plant. Given the scale and loading, compliance issues with Purdue involve complex treatment decisions, operation unit evaluations, and frequent oversight. Significant improvements were made in the past two years. Purdue Farms completed installation of additional treatment units, changed flow configuration, installed continuous monitoring and improved QA/QC program. Several engineering studies were completed to achieve compliance and allow for flexibility in treatment operation. The most recent challenge is hydraulic loading to Purdue pump station. Three overflows have been recently reported. Cumberland Container installed additional storage and dosing tank to address IU permit violations. Cooperation of the pretreatment coordinator allowed for close involvement in the pretreatment issues in Monterey.

TN0061166 Sparta Sewage Treatment Plant

Discharger rating: Major
City: Sparta
County: White
EFO Name: Cookeville
Issuance Date: 6/30/06
Expiration Date: 7/31/07
Receiving Stream(s): Calfkiller River Mile 11.5
HUC-12: 051301080504
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: WAS to holding tank to landfill

Segment	TN05130108043_1000
Name	Calfkiller River
Size	18.7
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Industrial Water Supply (Supporting), Irrigation (Supporting), Recreation (Supporting)
Causes	N/A
Sources	N/A

Table 6-8. Stream Segment Information for Sparta Sewage Treatment Plant.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	6	DMax Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	3	WAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	4	MAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	59	DMax Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	39	MAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	18	DMax Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	12	MAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	9	WAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	158	DMax Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	118	MAvg Load	lb/day	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		MAvg Load	Occurrences/Month	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	DMin % Removal	Percent	3/Week	Calculated	Percent Removal
CBOD % Removal	All Year	85	MAvg % Removal	Percent	3/Week	Calculated	Percent Removal
CBOD5	All Year	30	DMax Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year	21	MAvg Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year		MAvg Conc	mg/L	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	15	DMin Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year		DMax Conc	mg/L	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	276	DMax Load	lb/day	3/Week	Composite	Effluent
CBOD5	All Year	197	MAvg Load	lb/day	3/Week	Composite	Effluent

Table 6-9a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Cyanide, Total (CN-)	All Year	0.015	MAvg Conc	mg/L	Semi-annually	Grab	Effluent
D.O.	All Year	3	DMin Conc	mg/L	Weekdays	Grab	Effluent
E. coli	All Year	126	MAvg Geo Mean	#/100mL	3/Week	Grab	Effluent
E. coli	All Year	487	DMax Conc	#/100mL	3/Week	Grab	Effluent
Flow	All Year		DMax Load	MGD	Daily	Continuous	Effluent
Flow	All Year		DMax Load	MGD	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MAvg Load	MGD	Daily	Continuous	Effluent
Flow	All Year		MAvg Load	MGD	Daily	Continuous	Influent (Raw Sewage)
IC25 7day Ceriodaphnia Dubia	All Year	18.4	DMin Conc	Percent	Continuous	Composite	Effluent
IC25 7day Fathead Minnows	All Year	18.4	DMin Conc	Percent	Continuous	Composite	Effluent
Overflow Use Occurences	All Year		MAvg Load	Occurences/Month	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		MAvg Load	Occurences/Month	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	DMax Conc	mL/L	3/Week	Composite	Effluent
TRC	All Year	0.1	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	27	DMax Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	18	WAvG Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year		DMax Conc	mg/L	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	24	MAvg Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year		MAvg Conc	mg/L	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	315	DMax Load	lb/day	3/Week	Composite	Effluent
TSS	All Year	236	MAvg Load	lb/day	3/Week	Composite	Effluent
TSS % Removal	All Year	40	DMin % Removal	Percent	3/Week	Calculated	Percent Removal
TSS % Removal	All Year	85	MAvg % Removal	Percent	3/Week	Calculated	Percent Removal
pH	All Year	9	DMax Conc	SU	Weekdays	Grab	Effluent
pH	All Year	6	DMin Conc	SU	Weekdays	Grab	Effluent

Table 6-9b.

Tables 6-9a-b. Permit Limits for Sparta Sewage Treatment Plant.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 3 CBOD
- 5 Escherichia coli
- 4 TSS
- 2 CBOD % Removal
- 1 Ammonia
- 1 Settleable Solids
- 196 Overflows
- 36 Bypasses

Enforcement:

Consent Order # 06-0022

City of Sparta requested Order for grant funding reasons. The main concern is 125 overflows from March 2004 - Sept 2005. City of Sparta requested to connect Hampton's Crossroad area to sewer system.

EFO Comments:

Sparta continues to have problems with inflow and infiltration in the collection system. Chronic overflows at the Mayberry pump station and periodic headworks overload at the plant follow rain events. The City has agreed in a Consent Commissioner's Order to address the collection system problems. Flow metering was adjusted to record the maximum flows through the plant. The plant has to modify operation during high wet weather flows to compensate for the flow restriction at the influent screen and the effluent UV chamber. Grit is currently handled by a vacuum truck, as the original mechanical grit removal unit no longer functions. Comprehensive preventive maintenance schedule has been developed along with a database for maintenance record keeping. Hauled septage is introduced to the plant at the headworks; however, it is not included in the influent sample and flow measurements. The NPDES permit has been modified to reflect the current Water Quality Criteria and remove the Fecal coliform monitoring requirement. Sludge is dewatered in a belt press and hauled to a County landfill.

Sparta Pretreatment Program

Sparta pretreatment program regulates three significant users. Big Bend Technology (now Rhythm North America) expanded and upgraded their wastewater treatment system to increase capacity, reliability and efficiency of treatment. Additional tanks were installed and continuous electronic monitoring and chemical feed was incorporated in the new system. Classification of some of the users has been changed. Monthly limits for the metal finisher had to be calculated and approved.

TN0077704 Spencer Sewage Treatment Plant - Caney Fork

Discharger rating: Major
City: Spencer
County: Van Buren
EFO Name: Cookeville
Issuance Date: 7/31/06
Expiration Date: 7/31/07
Receiving Stream(s): Headwaters of Lick Branch
HUC-12: 0513010800401
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: activated sludge process w/ ultraviolet disinfection

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	2.4	DMax Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1.8	WAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1.2	MAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1.9	WAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1.3	MAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	4.2	DMax Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	2.1	MAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	3.2	WAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	3.3	WAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	2.2	MAvg Load	lb/day	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		MAvg Load	Occurrences/Month	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	DMin % Removal	Percent	3/Week	Calculated	Percent Removal
CBOD % Removal	All Year	85	MAvg % Removal	Percent	3/Week	Calculated	Percent Removal
CBOD5	All Year	20	DMax Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year	15	WAvg Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year		MAvg Conc	mg/L	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	10	MAvg Conc	mg/L	3/Week	Composite	Effluent
CBOD5	All Year		DMax Conc	mg/L	3/Week	Composite	Influent (Raw Sewage)
CBOD5	All Year	16	WAvg Load	lb/day	3/Week	Composite	Effluent
CBOD5	All Year	10	MAvg Load	lb/day	3/Week	Composite	Effluent
D.O.	All Year	6	DMin Conc	mg/L	Weekdays	Grab	Effluent
E. coli	All Year	941	DMax Conc	#/100mL	3/Week	Grab	Effluent
E. coli	All Year	126	MAvg Geo Mean	#/100mL	3/Week	Grab	Effluent
Flow	All Year		DMax Load	MGD	Daily	Continuous	Effluent
Flow	All Year		MAvg Load	MGD	Daily	Continuous	Effluent
Flow	All Year		DMax Load	MGD	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MAvg Load	MGD	Daily	Continuous	Influent (Raw Sewage)
Nitrite + Nitrate Total (as N)	All Year	10	DMax Conc	mg/L	3/Week	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year	6	MAvg Conc	mg/L	3/Week	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year	7.5	WAvg Conc	mg/L	3/Week	Composite	Effluent
Nitrite + Nitrate Total (as N)	All Year	8	WAvg Load	lb/day	3/Week	Composite	Effluent

Table 6-10a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Nitrite + Nitrate Total (as N)	All Year	6	MAvg Load	lb/day	3/Week	Composite	Effluent
Overflow Use Occurences	All Year		MAvg Load	Occurences/Month	Continuous	Visual	Wet Weather
Overflow Use Occurences	All Year		MAvg Load	Occurences/Month	Continuous	Visual	Non Wet Weather
Settleable Solids	All Year	1	DMax Conc	mL/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	40	WAvg Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year		DMax Conc	mg/L	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	30	MAvg Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year		MAvg Conc	mg/L	3/Week	Composite	Influent (Raw Sewage)
TSS	All Year	42	WAvg Load	lb/day	3/Week	Composite	Effluent
TSS	All Year	31	MAvg Load	lb/day	3/Week	Composite	Effluent
TSS % Removal	All Year	40	DMin % Removal	Percent	3/Week	Calculated	Percent Removal
TSS % Removal	All Year	85	MAvg % Removal	Percent	3/Week	Calculated	Percent Removal
pH	All Year	9	DMax Conc	SU	Weekdays	Grab	Effluent

Table 6-10b.

Tables 6-10a-b. Permit Limits for Spencer Sewage Treatment Plant.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 2 TSS
- 3 Nitrate
- 5 Ammonia
- 81 Overflows
- 3 Bypasses

Enforcement:

Agreed Order #04-0253 – remains under appeal.

Order for effluent violations, in-plant bypasses, and collection system overflows. 12/29/06 - Case placed on suspension by Office of General Counsel. Reason: Negotiations on related cases in the Attorney General's office.

EFO Comments:

Discharge to Lick Branch, the system is performing well. The receiving stream is small. Currently, other discharge points are being sought. Other NPDES permits have been issued but have not been used.

TN0027456: TVA Great Falls Hydro Electric Power Plant

Discharger rating:	Minor
City:	Rock Island
County:	Warren
EFO Name:	Cookeville
Issuance Date:	4/30/02
Expiration Date:	4/30/07
Receiving Stream(s):	Caney Fork River
HUC-12:	05130108 (Caney Fork)
Effluent Summary:	Cooling water from Outfall 001
Treatment system:	N/A

EFO Comments:

A very small source, which is well maintained. Spills of lubricants onto floor surfaces, if not cleaned immediately may be their biggest issue.

TN0027618 Pleasant Hill Housing Authority Waste Water Treatment Plant

Discharger rating: Minor
City: Pleasant Hill
County: Cumberland
EFO Name: Cookeville
Issuance Date: 4/30/02
Expiration Date: 4/30/07
Receiving Stream(s): Unnamed tributary at mile 0.4 to White Oak Creek at mile 3.0
HUC-12: 051301080101
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Activated Sludge

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	4	DMax Conc	mg/L	Monthly	Grab	Effluent
Ammonia as N (Total)	Winter	10	DMax Conc	mg/L	Monthly	Grab	Effluent
CBOD5	All Year	20	DMax Conc	mg/L	Monthly	Grab	Effluent
D.O.	All Year	3	DMin Conc	mg/L	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	DMax Conc	#/100mL	Monthly	Grab	Effluent
Settleable Solids	All Year	1	DMax Conc	mL/L	2/Week	Grab	Effluent
TRC	All Year	0.5	DMax Conc	mg/L	2/Week	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	Monthly	Grab	Effluent
pH	All Year	8.5	DMax Conc	SU	2/Week	Grab	Effluent
pH	All Year	6.5	DMin Conc	SU	2/Week	Grab	Effluent

Table 6-11. Permit Limits for Pleasant Hill Housing Authority Waste Water Treatment Plant.

EFO Comments:

Small, aging System. Increased loading is not expected. An increase in permit monitoring should be considered.

TN0042111 Rock Island State Park Waste Water Treatment Plant

Discharger rating: Minor
City: Rock Island
County: Warren
EFO Name: Cookeville
Issuance Date: 6/28/02
Expiration Date: 5/30/07
Receiving Stream(s): Caney Fork River (Center Hill Lake) at mile 89.0
HUC-12: 051301080402
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Activated Sludge

Segment	TN05130108090_0999
Name	Misc Tribs to Center Hill
Size	78.8
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Recreation (Not Assessed), Irrigation (Not Assessed), Fish and Aquatic Life (Not Assessed), Livestock Watering and Wildlife (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-12. Stream Segment Information for Rock Island State Park WWTP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	DMax Conc	mg/L	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	5	MAvg Conc	mg/L	2/Month	Grab	Effluent
BOD5	All Year	20	DMax Conc	mg/L	2/Month	Grab	Effluent
BOD5	All Year	10	MAvg Conc	mg/L	2/Month	Grab	Effluent
D.O.	All Year	5	DMin Conc	mg/L	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	DMax Conc	#/100mL	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	MAvg Geo Mean	#/100mL	2/Month	Grab	Effluent
Settleable Solids	All Year	1	DMax Conc	mL/L	2/Week	Grab	Effluent
TRC	All Year	2	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	2/Month	Grab	Effluent
TSS	All Year	30	MAvg Conc	mg/L	2/Month	Grab	Effluent
pH	All Year	9	DMax Conc	SU	2/Week	Grab	Effluent
pH	All Year	6	DMin Conc	SU	2/Week	Grab	Effluent

Table 6-13. Permit Limits for Rock Island State Park WWTP.

EFO Comments:

The Plant is aging (steel in-ground package plant). Currently a new “no discharge” plant is in the planning stages. As with all Waste Water Treatment Plants, the Collection Systems require constant preventative maintenance.

TN0055409 Appalachian Center for Crafts Waste Water Treatment Plant

Discharger rating: Minor
City: Smithville
County: DeKalb
EFO Name: Cookeville
Issuance Date: 6/28/02
Expiration Date: 6/30/07
Receiving Stream(s): Caney Fork River at mile 42.3
HUC-12: 051301080802
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Extended aeration

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	45	DMax Conc	mg/L	2/Month	Grab	Effluent
BOD5	All Year	30	MAvg Conc	mg/L	2/Month	Grab	Effluent
D.O.	All Year	1	DMin Conc	mg/L	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	DMax Conc	#/100mL	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	MAvg Geo Mean	#/100mL	2/Month	Grab	Effluent
Settleable Solids	All Year	1	DMax Conc	mL/L	2/Week	Grab	Effluent
TRC	All Year	2	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	2/Month	Grab	Effluent
TSS	All Year	30	MAvg Conc	mg/L	2/Month	Grab	Effluent
pH	All Year	9	DMax Conc	SU	2/Week	Grab	Effluent
pH	All Year	6	DMin Conc	SU	2/Week	Grab	Effluent

Table 6-14. Permit Limits for Appalachian Center for Crafts WWTP.

EFO Comments:

Aging Waste Water Treatment Plant, Steel shell in ground package plant. The school is careful not to overload or miss-treat the system. The school will need to set aside money for future repairs.

TN0055531 Uplands Retirement Community Waste Water Treatment Plant

Discharger rating: Minor
City: Pleasant Hill
County: Cumberland
EFO Name: Cookeville
Issuance Date: 6/28/02
Expiration Date: 1/31/07
Receiving Stream(s): Frey Branch at mile 0.4
HUC-12: 051301080101
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Activated Sludge

Segment	TN05130108036_0500
Name	Wilkerson Creek
Size	19.1
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Recreation (Not Assessed), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting), Fish and Aquatic Life (Supporting)
Causes	N/A
Sources	N/A

Table 6-15. Stream Segment Information for Uplands Retirement Community WWTP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	10	DMax Conc	mg/L	2/Month	Grab	Effluent
Ammonia as N (Total)	All Year	5	MAvg Conc	mg/L	2/Month	Grab	Effluent
CBOD5	All Year	40	DMax Conc	mg/L	2/Month	Grab	Effluent
CBOD5	All Year	25	MAvg Conc	mg/L	2/Month	Grab	Effluent
D.O.	All Year	6	DMin Conc	mg/L	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	DMax Conc	#/100mL	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	MAvg Geo Mean	#/100mL	2/Month	Grab	Effluent
Settleable Solids	All Year	1	DMax Conc	mL/L	2/Week	Grab	Effluent
TRC	All Year	0.5	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	2/Month	Grab	Effluent
TSS	All Year	30	MAvg Conc	mg/L	2/Month	Grab	Effluent
pH	All Year	8.5	DMax Conc	SU	2/Week	Grab	Effluent
pH	All Year	6	DMin Conc	SU	2/Week	Grab	Effluent

Table 6-16. Permit Limits for Uplands Retirement Community WWTP.

EFO Comments:

The system is aging and in need of an upgrade. The management has been encouraged to find the funds to improve the Waste Water Treatment Plant. Loading has been increased on the Waste Water Treatment Plant facility. This facility is held in private ownership. Further oversight is needed.

Copy of the application to field office on 8/8/06

TN0024198 Cookeville Sewage Treatment Plant

Discharger rating: Major
City: Cookeville
County: Putnam
EFO Name: Cookeville
Issuance Date: 4/28/02
Expiration Date: 12/30/07
Receiving Stream(s): Pigeon Roost Creek at mile 2.3
HUC-12: 051301080702
Effluent Summary: Treated municipal wastewater from Outfall 001
Treatment system: Oxidation ditch activated sludge with ultraviolet disinfecting of both treated effluent and storm flow that bypasses the ditch into a standby clarifier.

Segment	TN05130108045_0400
Name	Pigeon Roost Creek
Size	2.4
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Fish and Aquatic Life (Non-Supporting), Recreation (Non-Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	Escherichia coli, Nitrates, Phosphate, Physical substrate habitat alterations
Sources	Discharges from Municipal Separate Storm Sewer Systems (MS4), Municipal Point Source Discharges, Channelization

Table 6-17. Stream Segment Information for Cookeville Sewage Treatment Plant.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
48hr LC50: Ceriodaphnia Dubia	All Year	2.6	DMin Conc	Percent	Annually	Composite	Effluent
48hr LC50: Fathead Minnows	All Year	2.6	DMin Conc	Percent	Annually	Composite	Effluent
Al (T)	All Year	36.26	DMax Conc	mg/L	Weekly	Composite	Effluent
Al (T)	All Year	18.69	MAvg Conc	mg/L	Weekly	Composite	Effluent
Cr (T)	All Year	2.31	DMax Conc	mg/L	Monthly	Composite	Effluent
Cr (T)	All Year	0.95	MAvg Conc	mg/L	Monthly	Composite	Effluent
Cyanide, Total (CN-)	All Year	1.82	DMax Conc	mg/L	Monthly	Grab	Effluent
Cyanide, Total (CN-)	All Year	0.31	MAvg Conc	mg/L	Monthly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	30	DMax Conc	mg/L	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	15	MAvg Conc	mg/L	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	381	DMax Load	lb/day	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	253	MAvg Load	lb/day	Weekly	Grab	Effluent
TSS	All Year	70	DMax Conc	mg/L	Weekly	Grab	Effluent
TSS	All Year	50	MAvg Conc	mg/L	Weekly	Grab	Effluent
TSS	All Year	756	DMax Load	lb/day	Weekly	Grab	Effluent
TSS	All Year	360	MAvg Load	lb/day	Weekly	Grab	Effluent
Zn (T)	All Year	7.71	DMax Conc	mg/L	Monthly	Composite	Effluent
Zn (T)	All Year	3.41	MAvg Conc	mg/L	Monthly	Composite	Effluent
pH	All Year	9	DMax Conc	SU	Weekly	Grab	Effluent
pH	All Year	6	DMin Conc	SU	Weekly	Grab	Effluent

Table 6-18. Permit Limits for Cookeville Sewage Treatment Plant.

Appeal Date	26-MAY-06
Acknow. Letter	
Appeal Summary	Parts: 1.1 (E. coli), 1.2 (TN, TP monitoring/limiting; wet weather flow and bypass of treatment), 1.4.4 (DMR submittal by the 15th), 2.3.3 (self-imposed moratorium), 2.3.4.b (cause of upset), 2.3.6 (bypassing restrictions), 3.3 (sludge language).
Referred to OGC	05-JUN-06
WQCB Disposition	OGC Case # 06-0321; computer tracking # 06-14923; contact Patrick Parker

Table 6-19. Permit Appeal information for Cookeville Sewage Treatment Plant.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 2 Mercury
- 2 Suspended Solids % Removal
- 2 Escherichia coli
- 141 Bypasses

EFO Comments:

A new permit was re-issued on April 28, 2006, with expiration date of December 31, 2007. Some provisions have been appealed. The plant has an excellent performance and no effluent violations have been reported in recent years. Operation and Maintenance is incorporated in a formal electronic schedule/database. Most of the pump stations are equipped with a telemetry warning system. The City now owns three mobile generators. All pump stations are equipped with transfer switches and connectors. TTU pump station has been a chronic overflow point. NOV was issued in 2005. NOV was issued in 2005. Rehabilitation in this area has been a priority for Cookeville for the last two years. The City committed \$300,000 for diagnostics and repair and applied the last two years for CDBG funds. To address the overflows at Tech pump station, the wet well has been cleaned out and large amount of sediment was removed. Rehabilitation work in the Tech Pump station basin has been completed this summer. Sludge is processed into class A biosolids through heat and lime treatment.

Cookeville Pretreatment Program

New pretreatment coordinator took over the program last year. The last pretreatment compliance inspection identified some concerns with accurate classification of the categorical industries. Some permit language changes were recommended to reflect the 40 CFR 403 requirements. Details on Total Toxic Organic monitoring and reporting were discussed and the city pretreatment coordinator is in progress of implementing the changes. Combined waste formula had to be applied to some of the industrial users to account for the dilution in the categorical waste streams. Currently local limits for the city are under a review and recalculations due to new pass through limits issued by the Division. Grease control plan has been developed and its implementation is underway.

TN0068128 USACOE Center Hill Hydro Electric Plant

Discharger rating: Major
City: Lancaster
County: DeKalb
EFO Name: Cookeville
Issuance Date: 9/30/02
Expiration Date: 9/29/07
Receiving Stream(s): Caney Fork River
HUC-12: 051301080804
Effluent Summary: Noncontact cooling water from Outfalls 001, 002 and 003. Station sump discharge from Outfall 004. Discharge from unit unwatering sump from Outfall 005, and from the dam sump at Outfall 006.
Treatment system: -

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Settleable Solids	All Year	0.5	DMax Conc	mL/L	Annually	Grab	Effluent

Table 6-20. Permit Limits for USACOE Center Hill Hydro Electric Plant.

EFO Comments:

The operators are proactive. This is a very minor source. Due to concrete expansion, cutting of the Dam has been partially performed this year. A discharge has not been observed.

TN0065013 Van Buren County High School

The system retains their permit but is off line. It is expected to remain permanently offline.

TN0065358 Smithville Sewage Treatment Plant

Discharger rating: Major
City: Smithville
County: DeKalb
EFO Name: Cookeville
Issuance Date: 4/30/06
Expiration Date: 10/30/07
Receiving Stream(s): Fall Creek at mile 4.7
HUC-12: 051301080406
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Activated sludge, chlorination, flow equalization and dechlorination

Segment	TN05130108684_1000
Name	Fall Creek
Size	9.8
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Irrigation (Supporting), Livestock Watering and Wildlife (Supporting), Recreation (Non-Supporting), Fish and Aquatic Life (Non-Supporting)
Causes	Escherichia coli, Nutrient/Eutrophication Biological Indicators, Oxygen, Dissolved, Sedimentation/Siltation, Other anthropogenic substrate alterations
Sources	Upstream Impoundments (e.g., PI-566 NRCS Structures), Municipal Point Source Discharges

Table 6-21. Stream Segment Information for Smithville Sewage Treatment Plant.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	4	DMax Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	1.6	WAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	3	MAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	54	DMax Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Summer	29	MAvg Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	5	DMax Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	3	WAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	4	MAvg Conc	mg/L	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	72	DMax Load	lb/day	3/Week	Composite	Effluent
Ammonia as N (Total)	Winter	54	MAvg Load	lb/day	3/Week	Composite	Effluent
Bypass of Treatment (occurrences)	All Year		MAvg Load	Occurrences/Month	Continuous	Visual	Wet Weather
CBOD % Removal	All Year	40	DMin % Removal	Percent	3/Week	Calculated	% Removal
CBOD % Removal	All Year	85	MAvg % Removal	Percent	3/Week	Calculated	% Removal
CBOD5	Summer	20	DMax Conc	mg/L	3/Week	Composite	Effluent
CBOD5	Summer	15	MAvg Conc	mg/L	3/Week	Composite	Effluent
CBOD5	Summer	10	DMin Conc	mg/L	3/Week	Composite	Effluent
CBOD5	Summer	270	DMax Load	lb/day	3/Week	Composite	Effluent
CBOD5	Summer	180	MAvg Load	lb/day	3/Week	Composite	Effluent

Table 6-22a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
CBOD5	Winter	40	DMax Conc	mg/L	3/Week	Composite	Effluent
CBOD5	Winter	30	MAvg Conc	mg/L	3/Week	Composite	Effluent
CBOD5	Winter	25	DMin Conc	mg/L	3/Week	Composite	Effluent
CBOD5	Winter	540	DMax Load	lb/day	3/Week	Composite	Effluent
CBOD5	Winter	450	MAvg Load	lb/day	3/Week	Composite	Effluent
D.O.	All Year	1	DMin Conc	mg/L	Weekdays	Grab	Effluent
E. coli	All Year	126	MAvg Geo Mean	#/100mL	3/Week	Grab	Effluent
IC25 7day Ceriodaphnia Dubia	All Year	100	DMin Conc	Percent	Quarterly	Composite	Effluent
IC25 7day Fathead Minnows	All Year	100	DMin Conc	Percent	Quarterly	Composite	Effluent
Overflow Use Occurences	All Year		MAvg Load	Occurences/Month	Continuous	Visual	Non Wet Weather
Overflow Use Occurences	All Year		MAvg Load	Occurences/Month	Continuous	Visual	Wet Weather
Settleable Solids	All Year	1	DMax Conc	mL/L	3/Week	Composite	Effluent
TRC	All Year	0.03	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	40	MAvg Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	30	WAv Conc	mg/L	3/Week	Composite	Effluent
TSS	All Year	720	DMax Load	lb/day	3/Week	Composite	Effluent
TSS	All Year	540	MAvg Load	lb/day	3/Week	Composite	Effluent
TSS % Removal	All Year	40	DMin % Removal	Percent	3/Week	Calculated	%Removal
TSS % Removal	All Year	85	MAvg % Removal	Percent	3/Week	Calculated	%Removal
pH	All Year	9	DMax Conc	SU	Weekdays	Grab	Effluent
pH	All Year	6	DMin Conc	SU	Weekdays	Grab	Effluent

Table 6-22b.

Tables 6-22a-b. Permit Limits for Smithville Sewage Treatment Plant.

Compliance History:

The following numbers of exceedences were noted in PCS:

- 3 Chlorine
- 1 overflow
- 12 Bypasses

EFO Comments:

Smithville Sewage Treatment Plant operates a Sequence Batch Reactor plant with some equalization in the chlorine contact chamber. The facility collects time proportional samples. Influent is measured using a stilling well with a Parshall flume. An offset calibration of the influent meter was observed and confirmed in field. The effluent flow measurement is done by daily volume balancing of decant cycles. Stream monitoring is conducted two years during the life of the permit. Capacity evaluation of the sewer interceptor was requested to determine conditions of potential overflows from manholes submerged in Fall Creek. The NPDES permit has been modified to reflect the current Water Quality Criteria and remove the Fecal coliform monitoring requirement. Sludge is aerobically digested and land applied as liquid. Collection system rehabilitation efforts have been reviewed. Smithville took over the ownership and maintenance of line extension to Chapel Hills Development.

Smithville Pretreatment Program

Additional sampling location for process water discharge of AAA coatings has been established to monitor compliance with categorical limits and avoid dilution with domestic wastewater.

TN0057908 Fall Creek Falls State Park

Discharger rating: Minor
City: Pikeville
County: Van Buren
EFO Name: Cookeville
Issuance Date: 12/31/02
Expiration Date: 12/31/07
Receiving Stream(s): Fall Creek at mile 1.5
HUC-12: 051301080301
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Aerated lagoon and constructed wetlands

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	All Year	20	DMax Conc	mg/L	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	10	WAvg Conc	mg/L	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	15	MAvg Conc	mg/L	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	25	DMax Load	lb/day	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	12	MAvg Load	lb/day	Weekly	Grab	Effluent
Ammonia as N (Total)	All Year	19	DMax Load	lb/day	Weekly	Composite	Effluent
CBOD % Removal	All Year	85	MAvg % Removal	Percent	Weekly	Calculated	% Removal
CBOD5	All Year	40	DMax Conc	mg/L	Weekly	Composite	Effluent
CBOD5	All Year	35	MAvg Conc	mg/L	Weekly	Composite	Effluent
CBOD5	All Year	25	DMin Conc	mg/L	Weekly	Composite	Effluent
CBOD5	All Year	50	DMax Load	lb/day	Weekly	Composite	Effluent
CBOD5	All Year	31	MAvg Load	lb/day	Weekly	Composite	Effluent
CBOD5	All Year	44	DMax Load	lb/day	Weekly	Composite	Effluent
D.O.	All Year	5	DMin Conc	mg/L	Weekdays	Grab	Effluent
E. coli	All Year	126	MAvg Geo Mean	#/100mL	Weekly	Grab	Effluent
Fecal Coliform	All Year	1000	DMax Conc	#/100mL	Weekly	Grab	Effluent
Fecal Coliform	All Year	200	MAvg Geo Mean	#/100mL	Weekly	Grab	Effluent
Settleable Solids	All Year	1	DMax Conc	mL/L	Weekdays	Composite	Effluent
TRC	All Year	2	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	Weekly	Composite	Effluent
TSS	All Year	40	MAvg Conc	mg/L	Weekly	Composite	Effluent
TSS	All Year	30	WAvg Conc	mg/L	Weekly	Composite	Effluent
TSS	All Year	56	DMax Load	lb/day	Weekly	Composite	Effluent
TSS	All Year	37	MAvg Load	lb/day	Weekly	Composite	Effluent
TSS	All Year	50	DMax Load	lb/day	Weekly	Composite	Effluent
TSS % Removal	All Year	85	MAvg % Removal	Percent	Weekly	Calculated	% Removal
pH	All Year	9	DMax Conc	SU	Weekdays	Grab	Effluent
pH	All Year	6	DMin Conc	SU	Weekdays	Grab	Effluent

Table 6-23. Permit Limits for Fall Creek Falls State Park.

EFO Comments:

Aeration with constructed wetland then UV disinfection. Facility generally runs well. Further collection system work is needed. Violations have occurred with respect to ammonia removal. RVs may dump into the park system. Unknown sources could create

some toxic issues as with any State of Tennessee park with this type of RV service facility.

TN0059480 Edgar Evins State Park Waste Water Treatment Plant

Discharger rating: Minor
City: Silver Point
County: Van Buren
EFO Name: Cookeville
Issuance Date: 7/31/02
Expiration Date: 5/31/07
Receiving Stream(s): Discharge 001 enters unnamed tributary at mile 0.5 to Caney Fork River at mile 30.5 and discharge 002 enters Caney Fork River at mile 27.4
HUC-12: 051301080804
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: 001 - Extended aeration & 002 - Septic tank with sand filter

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
BOD5	All Year	45	DMax Conc	mg/L	2/Month	Grab	Effluent
BOD5	All Year	30	MAvg Conc	mg/L	2/Month	Grab	Effluent
D.O.	All Year	1	DMin Conc	mg/L	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	DMax Conc	#/100mL	2/Month	Grab	Effluent
Settleable Solids	All Year	1	DMax Conc	mL/L	2/Week	Grab	Effluent
TRC	All Year	2	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	45	DMax Conc	mg/L	2/Month	Grab	Effluent
TSS	All Year	30	MAvg Conc	mg/L	2/Month	Grab	Effluent
pH	All Year	9	DMax Conc	SU	2/Week	Grab	Effluent
pH	All Year	6	DMin Conc	SU	2/Week	Grab	Effluent

Table 6-24. Permit Limits for Edgar Evins State Park Waste Water Treatment Plant.

EFO Comments:

In ground activated sludge and second location (Sand Filter). Collection system maintenance and money for upkeep is needed. Additional certified personnel are needed for back-up purposes.

TN0060054 Cane Creek Lake and Park

Discharger rating: Minor
City: Cookeville
County: Putnam
EFO Name: Cookeville
Issuance Date: 2/28/02
Expiration Date: 2/28/07
Receiving Stream(s): Discharge 001 and 002 enters Cane Creek Embayment at miles 15.6 and 15.9
HUC-12: 051301080704
Effluent Summary: Treated domestic wastewater from Outfalls 001 and 002
Treatment system: Septic tank with sand filter system

Segment	TN05130108045_0150
Name	Cane Creek
Size	12
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Livestock Watering and Wildlife (Supporting), Fish and Aquatic Life (Non-Supporting), Recreation (Not Assessed), Irrigation (Supporting)
Causes	Sedimentation/Siltation, Alteration in stream-side or littoral vegetative covers
Sources	Discharges from Municipal Separate Storm Sewer Systems (MS4), Grazing in Riparian or Shoreline Zones, Unrestricted Cattle Access

Table 6-25. Stream Segment Information for Cane Creek Lake and Park.

Permit Limits:

No Limits in Permstat.

EFO Comments:

The two systems are small. Typically there is no flow. The systems are in good condition. The systems are closed in the winter.

TN0056626 TN Department of Correction SE Regional Facility

Discharger rating: Minor
City: Pikeville
County: Bledsoe
EFO Name: Chattanooga
Issuance Date: 8/29/02
Expiration Date: 8/30/07
Receiving Stream(s): Mill Creek at mile 1.0 to Glade Creek at mile 3.8
HUC-12: 051301080202
Effluent Summary: Treated domestic wastewater from Outfall 001
Treatment system: Extended aeration

Segment	TN05130108033_0300
Name	Glade Creek
Size	18
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-26. Stream Segment Information for TN DOC SE Regional Facility

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	2.9	mg/L	DMax Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	4.4	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	1.45	mg/L	WAvg Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	3.3	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	2.2	lb/day	MAvg Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Summer	2.2	mg/L	MAvg Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	4.28	mg/L	DMax Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	3.2	lb/day	MAvg Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	3.2	mg/L	MAvg Conc	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	6.4	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	4.8	lb/day	DMax Load	Weekly	Composite	Effluent
Ammonia as N (Total)	Winter	2.14	mg/L	WAvg Conc	Weekly	Composite	Effluent
CBOD5	All Year	30	mg/L	DMax Conc	Weekly	Composite	Effluent
CBOD5	All Year	20	mg/L	DMin Conc	Weekly	Composite	Effluent
CBOD5	All Year	30	lb/day	MAvg Load	Weekly	Composite	Effluent
CBOD5	All Year	25	mg/L	MAvg Conc	Weekly	Composite	Effluent
CBOD5	All Year	38	lb/day	DMax Load	Weekly	Composite	Effluent
CBOD5	All Year	45	lb/day	DMax Load	Weekly	Composite	Effluent
D.O.	All Year	6	mg/L	DMin Conc	Weekdays	Grab	Effluent
E. coli	All Year	126	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Fecal Coliform	All Year	1000	#/100mL	DMax Conc	Weekly	Grab	Effluent

Table 6-2.a.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Fecal Coliform	All Year	200	#/100mL	MAvg Geo Mean	Weekly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Effluent
Flow	All Year		MGD	MAvg Load	Daily	Continuous	Influent (Raw Sewage)
Flow	All Year		MGD	DMax Load	Daily	Continuous	Influent (Raw Sewage)
Settleable Solids	All Year	1	mL/L	DMax Conc	Weekdays	Composite	Effluent
TRC	All Year	0.02	mg/L	DMax Conc	Weekdays	Grab	Effluent
TSS	All Year	45	mg/L	DMax Conc	Weekly	Composite	Effluent
TSS	All Year	68	lb/day	DMax Load	Weekly	Composite	Effluent
TSS	All Year	60	lb/day	DMax Load	Weekly	Composite	Effluent
TSS	All Year	40	mg/L	MAvg Conc	Weekly	Composite	Effluent
TSS	All Year	46	lb/day	MAvg Load	Weekly	Composite	Effluent
TSS	All Year	30	mg/L	WAvg Conc	Weekly	Composite	Effluent
pH	All Year	9	SU	DMax Conc	Weekdays	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekdays	Grab	Effluent

Table 6-27b.

Tables 6-27a-b. Permit Limits for TN DOC SE Regional Facility.

EFO Comments:

Bee Creek, Mile 6.5 to 7.5, rated Tier II as of July 2005. Threatened and endangered species live downstream of discharge in Mill Creek.

This facility has had numerous and continuous oil and grease issues including unauthorized land application of grease. Originally, the EFO was considering enforcement on this facility, but plans were in the works for a new prison and subsequent new WWTP. These plans have apparently been stalled for now and enforcement may be requested.

**TN0040568 TN Department of Correction, Taft Youth Development Center Sewage
Treatment Plant**

Discharger rating:	Minor
City:	Pikeville
County:	Bledsoe
EFO Name:	Chattanooga
Issuance Date:	10/31/02
Expiration Date:	9/29/07
Receiving Stream(s):	Wet weather conveyance to Bee Creek at mile 7.3
HUC-12:	051301080201
Effluent Summary:	Treated domestic wastewater from Outfall 001
Treatment system:	Extended aeration

Parameter Limits:

No limits in Permstat?

EFO Comments:

This facility is on the same grounds as TN Department of Correction SE Regional Facility but is administered by the Department of Children's Services. It discharges to Bee Creek, which is designated as High Quality Waters. A Notice of Violation was issued after the last inspection in 2006.

6.4.B. Industrial Permits

TN0002593 Bon L Manufacturing Company

Discharger rating: Minor
City: Carthage
County: Smith
EFO Name: Cookeville
Issuance Date: 3/1/02
Expiration Date: 2/28/07
Receiving Stream(s): Caney Fork River at mile 8.6
HUC-12: 051301080806
Effluent Summary: Industrial process wastewater through Outfall 001
Treatment system: -

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
48hr LC50: Ceriodaphnia Dubia	All Year	2.6	DMin Conc	Percent	Annually	Composite	Effluent
48hr LC50: Fathead Minnows	All Year	2.6	DMin Conc	Percent	Annually	Composite	Effluent
Al (T)	All Year	36.26	DMax Conc	mg/L	Weekly	Composite	Effluent
Al (T)	All Year	18.69	MAvg Conc	mg/L	Weekly	Composite	Effluent
Cr (T)	All Year	2.31	DMax Conc	mg/L	Monthly	Composite	Effluent
Cr (T)	All Year	0.95	MAvg Conc	mg/L	Monthly	Composite	Effluent
Cyanide, Total (CN-)	All Year	1.82	DMax Conc	mg/L	Monthly	Grab	Effluent
Cyanide, Total (CN-)	All Year	0.31	MAvg Conc	mg/L	Monthly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	30	DMax Conc	mg/L	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	15	MAvg Conc	mg/L	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	381	DMax Load	lb/day	Weekly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	253	MAvg Load	lb/day	Weekly	Grab	Effluent
TSS	All Year	70	DMax Conc	mg/L	Weekly	Grab	Effluent
TSS	All Year	50	MAvg Conc	mg/L	Weekly	Grab	Effluent
TSS	All Year	756	DMax Load	lb/day	Weekly	Grab	Effluent
TSS	All Year	360	MAvg Load	lb/day	Weekly	Grab	Effluent
Zn (T)	All Year	7.71	DMax Conc	mg/L	Monthly	Composite	Effluent
Zn (T)	All Year	3.41	MAvg Conc	mg/L	Monthly	Composite	Effluent
pH	All Year	9	DMax Conc	SU	Weekly	Grab	Effluent
pH	All Year	6	DMin Conc	SU	Weekly	Grab	Effluent

Table 6-28. Permit Limits for Bon L Manufacturing Company.

EFO Comments:

Aluminum extrusion plant. Casts aluminum logs that are used in the extrusion process. Some are painted, anodized or fabricated.

The treatment system consists of two treatment lines with effluents combined prior to sampling and discharge. Paint line pretreatment undergoes chromium reduction, clarification and filtration. All other industrial wastewater goes through batch chemical treatment in complete mix flocculation tanks and a clarifier. De-foamer is blended in prior to discharge. Domestic wastewater is discharged to the Gordonsville Sewage Treatment Plant. Composite samples are collected flow proportional. Bon L uses a commercial lab to analyze for all permit parameters except pH and flow.

TN0075931 Van Buren County Industrial Park

Discharger rating: Minor
City: Spencer
County: Van Buren
EFO Name: Cookeville
Issuance Date: 2/28/02
Expiration Date: 2/28/07
Receiving Stream(s): Molloy Hollow Creek
HUC-12: 051301080602
Effluent Summary: Treated municipal wastewater
Treatment system: -

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ammonia as N (Total)	Summer	1.8	DMax Conc	mg/L	2/Month	Grab	Effluent
Ammonia as N (Total)	Summer	1.28	MAvg Conc	mg/L	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	3.2	DMax Conc	mg/L	2/Month	Grab	Effluent
Ammonia as N (Total)	Winter	2.11	MAvg Conc	mg/L	2/Month	Grab	Effluent
CBOD5	All Year	25	DMax Conc	mg/L	2/Month	Grab	Effluent
CBOD5	All Year	20	MAvg Conc	mg/L	2/Month	Grab	Effluent
D.O.	All Year	5	DMin Conc	mg/L	Weekdays	Grab	Effluent
Fecal Coliform	All Year	1000	DMax Conc	#/100mL	2/Month	Grab	Effluent
Fecal Coliform	All Year	200	MAvg Geo Mean	#/100mL	2/Month	Grab	Effluent
Settleable Solids	All Year	1	DMax Conc	mL/L	2/Week	Grab	Effluent
TRC	All Year	0.02	DMax Conc	mg/L	Weekdays	Grab	Effluent
TSS	All Year	40	DMax Conc	mg/L	2/Month	Grab	Effluent
TSS	All Year	30	MAvg Conc	mg/L	2/Month	Grab	Effluent
pH	All Year	8.5	DMax Conc	SU	2/Week	Grab	Effluent
pH	All Year	6.5	DMin Conc	SU	2/Week	Grab	Effluent

Table 6-29. Permit Limits for Van Buren County Industrial Park

EFO Comments:
 None

TN0057894 Duromatic Products – Campaign

Discharger rating: Minor
City: Campaign
County: Warren
EFO Name: Cookeville
Issuance Date: 7/31/02
Expiration Date: 7/31/07
Receiving Stream(s): Wet weather conveyance to an unnamed tributary to a sinkhole
HUC-12: 051301080602
Effluent Summary: Treated industrial wastewater from electroplating operations from Outfall 002
Treatment system: -

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Ag (T)	All Year	0.43	mg/L	DMax Conc	Semi-annually	Composite	Effluent
Ag (T)	All Year	0.24	mg/L	MAvg Conc	Semi-annually	Composite	Effluent
Cd (T)	All Year	0.69	mg/L	DMax Conc	Monthly	Composite	Effluent
Cd (T)	All Year	0.26	mg/L	MAvg Conc	Monthly	Composite	Effluent
Cr (T)	All Year	2.77	mg/L	DMax Conc	Weekly	Composite	Effluent
Cr (T)	All Year	1.71	mg/L	MAvg Conc	Weekly	Composite	Effluent
Cu (T)	All Year	3.38	mg/L	DMax Conc	Monthly	Composite	Effluent
Cu (T)	All Year	2.07	mg/L	MAvg Conc	Monthly	Composite	Effluent
Cyanide, Total (CN-)	All Year	1.2	mg/L	DMax Conc	Semi-annually	Grab	Effluent
Cyanide, Total (CN-)	All Year	0.65	mg/L	MAvg Conc	Semi-annually	Grab	Effluent
Flow	All Year		MGD	DMax Load	Continuous	Recorder	Effluent
Flow	All Year		MGD	MAvg Load	Continuous	Recorder	Effluent
Ni (T)	All Year	3.98	mg/L	DMax Conc	Monthly	Composite	Effluent
Ni (T)	All Year	2.38	mg/L	MAvg Conc	Monthly	Composite	Effluent
Oil and Grease (Freon EM)	All Year	52	mg/L	DMax Conc	Monthly	Grab	Effluent
Oil and Grease (Freon EM)	All Year	26	mg/L	MAvg Conc	Monthly	Grab	Effluent
Pb (T)	All Year	0.69	mg/L	DMax Conc	Weekly	Composite	Effluent
Pb (T)	All Year	0.43	mg/L	MAvg Conc	Weekly	Composite	Effluent
TSS	All Year	60	mg/L	DMax Conc	Monthly	Composite	Effluent
TSS	All Year	31	mg/L	MAvg Conc	Monthly	Composite	Effluent
Total Toxic Organics (TTO) (40CFR433)	All Year	2.13	mg/L	DMax Conc	Annually	Grab	Effluent
Zn (T)	All Year	2.61	mg/L	DMax Conc	Monthly	Composite	Effluent
Zn (T)	All Year	1.48	mg/L	MAvg Conc	Monthly	Composite	Effluent
pH	All Year	9	SU	DMax Conc	Weekly	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Weekly	Grab	Effluent

Table 6-30. Permit Limits for Duromatic Products – Campaign.

Compliance:

The following numbers of exceedences were noted in PCS:

- 5 Zinc
- 1 Silver
- 5 Total Chromium
- 7 Chromium Hexavalent

- 5 Total Nitrogen1 Oil and Grease

Enforcement:

Duromatic Products is currently under enforcement. Office of Attorney General is handling the case. NOV was issued in January 2004 for:

- permit limits violation for hexavalent chromium, total chromium, total zinc and pH
- Inadequate flow monitoring
- Not conducting required biomonitoring
- Inadequate reporting

The conditions continued and no improvement was observed as of January 2006.

Comments:

Electroplating, Plating, Polishing, Anodizing, and Coloring.

6.4.C. Water Treatment Permits

TN0005231 Cookeville Water Treatment Plant

City: Cookeville
County: Putnam
EFO Name: Cookeville
Issuance Date: 1/31/03
Expiration Date: 1/31/08
Receiving Stream: Alum Lick Branch at mile 1.0 to Mine Lick Creek at mile 4.2
HUC-12: 051301080803
Effluent Summary: Filter backwash from Outfall 001
Treatment system: Sedimentation lagoon

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Fe (T)	All Year	5	DMax Conc	mg/L	Monthly	Composite	Effluent
Settleable Solids	All Year	0.5	DMax Conc	mL/L	Monthly	Grab	Effluent
TRC	All Year	1	DMax Conc	mg/L	Monthly	Grab	Effluent
TSS	All Year	40	DMax Conc	mg/L	Monthly	Grab	Effluent
pH	All Year	9	DMax Conc	SU	Monthly	Grab	Effluent
pH	All Year	6	DMin Conc	SU	Monthly	Grab	Effluent

Table 6-31. Permit Limits for Cookeville Water Treatment Plant.

Compliance:

The following numbers of exceedences were noted in PCS:

- 2 pH
- 6 Settleable Solids
- 9 Iron
- 1 TSS

EFO Comments:

The Water Plant recently underwent an upgrade. Previously, chronic discharges from the sediment basin created Ferric Chloride releases to Alum Lick Branch, (Center Hill Lake). Notices of Violation were issued. Cookeville Water Plant completed construction of two large lagoons to handle the clarifier sludge and filter backwash water. The discharge is through the existing outfall. The existing intermediate filter backwash lagoon has been refurbished and lined with concrete. All discharges are captured and treated in the two lagoons.

TN0077968 Bon de Croft Utility District

City: Sparta
County: White
EFO Name: Cookeville
Issuance Date: 9/24/04
Expiration Date: 9/27/09
Receiving Stream: Unnamed tributary to Lost Creek
HUC-12: 051301080104
Effluent Summary: Filter backwash and/or sedimentation basin washdown from Outfall 001
Treatment system: Aluminum, Lime and Chlorine

Segment	TN05130108025_0500
Name	Lost Creek
Size	23.3
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Fish and Aquatic Life (Supporting), Recreation (Not Assessed), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table6-32. Stream Segment Information for Bon de Croft Utility District.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Al (T)	All Year	0.75	DMax Conc	mg/L	Monthly	Grab	Effluent
Flow	All Year		DMax Load	MGD	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	DMax Conc	mL/L	Monthly	Grab	Effluent
TRC	All Year	0.019	DMax Conc	mg/L	Monthly	Grab	Effluent
TSS	All Year	40	DMax Conc	mg/L	Monthly	Grab	Effluent
pH	All Year	9	DMax Conc	SU	Monthly	Grab	Effluent
pH	All Year	6.5	DMin Conc	SU	Monthly	Grab	Effluent

Table 6-33. Permit Limits for Bon de Croft Utility District.

EFO Comments:

A "Backwash Filter Treatment permit". The system is small. Removal of backwash solids is difficult at this Water Treatment Plant.

TN0078182 Spencer Water Treatment Plant

City: Spencer
County: Van Buren
EFO Name: Cookeville
Issuance Date: 9/24/04
Expiration Date: 9/27/09
Receiving Stream: Unnamed tributary to Dry Creek to Laurel Creek
HUC-12: 051301080401
Effluent Summary: Filter backwash and/or sedimentation basin washdown from Outfall 001
Treatment: KMnO₄, alum, caustic soda, fluoride, sodium polyphosphate

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Al (T)	All Year	0.75	DMax Conc	mg/L	Monthly	Grab	Effluent
Fe (T)	All Year	2	DMax Conc	mg/L	Monthly	Grab	Effluent
Flow	All Year		DMax Load	MGD	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	DMax Conc	mL/L	Monthly	Grab	Effluent
TRC	All Year	0.019	DMax Conc	mg/L	Monthly	Grab	Effluent
TSS	All Year	40	DMax Conc	mg/L	Monthly	Grab	Effluent
pH	All Year	9	DMax Conc	SU	Monthly	Grab	Effluent
pH	All Year	6.5	DMin Conc	SU	Monthly	Grab	Effluent

Table 6-34. Permit Limits for Spencer Water Treatment Plant.

Compliance:

The following numbers of exceedences were noted in PCS:

- 14 Chlorine
- 2 Aluminum

EFO Comments:

None.

TN0064467 Dowelltown-Liberty Water Treatment Plant

City: Dowelltown
County: DeKalb
EFO Name: Cookeville
Issuance Date: 9/24/04
Expiration Date: 9/27/09
Receiving Stream: Dry Creek to Smith Fork Creek
HUC-12: 051301080903
Effluent Summary: Filter backwash and/or sedimentation basin washdown from Outfall 001
Treatment system: Aluminum sulfate

Segment	TN05130108004_1000
Name	Smith Fork Creek
Size	39.04
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Fish and Aquatic Life (Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-35. Stream Segment Information for Dowelltown-Liberty WTP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Al (T)	All Year	0.75	DMax Conc	mg/L	Monthly	Grab	Effluent
Flow	All Year		DMax Load	MGD	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	DMax Conc	mL/L	Monthly	Grab	Effluent
TRC	All Year	0.019	DMax Conc	mg/L	Monthly	Grab	Effluent
TSS	All Year	40	DMax Conc	mg/L	Monthly	Grab	Effluent
pH	All Year	9	DMax Conc	SU	Monthly	Grab	Effluent
pH	All Year	6.5	DMin Conc	SU	Monthly	Grab	Effluent

Table 6-36. Permit Limits for Dowelltown-Liberty Water Treatment Plant

Compliance:

The following numbers of exceedences were noted in PCS:

- 1 Settleable Solids
- 3 Aluminum

EFO Comments:

A small source. Difficulty in removing solids from the sediment basins is a maintenance issue. Operators have been working on a method to effectively remove the solids.

TN0061131 Smith Utility District Water Treatment Plant

City: Carthage
County: Smith
EFO Name: Cookeville
Issuance Date: 9/24/04
Expiration Date: 9/27/09
Receiving Stream: Caney Fork River at mile 7.5
HUC-12: 051301080806
Effluent Summary: Filter backwash and/or sedimentation basin washdown from Outfall 001
Treatment system: Chlorine (Clart-Ion® A502.7P Liquid Coagulant alum blend), lime

Segment	TN05130108001_1000
Name	Caney Fork River
Size	20.5
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Industrial Water Supply (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting), Fish and Aquatic Life (Supporting), Domestic Water Supply (Supporting), Recreation (Supporting)
Causes	N/A
Sources	N/A

Table 6-37. Stream Segment Information for Smith Utility District WTP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Al (T)	All Year	10	DMax Conc	mg/L	Monthly	Grab	Effluent
Flow	All Year		DMax Load	MGD	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	DMax Conc	mL/L	Monthly	Grab	Effluent
TRC	All Year	1	DMax Conc	mg/L	Monthly	Grab	Effluent
TSS	All Year	40	DMax Conc	mg/L	Monthly	Grab	Effluent
pH	All Year	9	DMax Conc	SU	Monthly	Grab	Effluent
pH	All Year	6.5	DMin Conc	SU	Monthly	Grab	Effluent

Table 6-38. Permit Limits for Smith Utility District Water Treatment Plant.

EFO Comments:

A Backwash Filter Discharge to the Caney Fork River. It is downstream of the William L. Bonnell facility, which is an industrial source. The Water Treatment Plant is a small source and no major problems have been noted.

TN0077909 City of Crossville - Meadow Park Water Treatment Plant

City: Crossville
County: Cumberland
EFO Name: Cookeville
Issuance Date: 9/24/04
Expiration Date: 9/27/09
Receiving Stream: Meadow Creek
HUC-12: 051301080102
Effluent Summary: Filter backwash from Outfall 001
Treatment system: Iron, manganese, and turbidity removal. Add: thermodyne polymer, caustic soda, mixed oxidant disinfectant, floride, phosphate, and sodium bisulfate

Segment	TN05130108036_0700
Name	Hughes Creek
Size	24.93
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Recreation (Not Assessed), Irrigation (Supporting), Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	N/A
Sources	N/A

Table 6-39. Stream Segment Information for City of Crossville – Meadow Park WTP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Fe (T)	All Year	2	DMax Conc	mg/L	Monthly	Grab	Effluent
Flow	All Year		DMax Load	MGD	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	DMax Conc	mL/L	Monthly	Grab	Effluent
TRC	All Year	0.019	DMax Conc	mg/L	Monthly	Grab	Effluent
TSS	All Year	40	DMax Conc	mg/L	Monthly	Grab	Effluent
pH	All Year	9	DMax Conc	SU	Monthly	Grab	Effluent
pH	All Year	6.5	DMin Conc	SU	Monthly	Grab	Effluent

Table 6-40. Permit Limits for City of Crossville – Meadow Park Water Treatment Plant.

EFO Comments:

None.

TN0078263 Taft Youth Development Center Water Treatment Plant

City: Pikeville
County: Bledsoe
EFO Name: Chattanooga
Issuance Date: 9/29/04
Expiration Date: 9/27/09
Receiving Stream: Bee Creek at mile 9.5 to Caney Creek
HUC-12: 051301080201
Effluent Summary: Filter backwash and/or sedimentation basin washdown from Outfall 001
Treatment system: Settling, filtration; alum, chlorine, sodium silicofluoride

Segment	TN05130108033_2000
Name	Bee Creek
Size	16.67
Unit	Miles
First Year on 303(d) List	2004
Designated Uses	Domestic Water Supply (Supporting), Fish and Aquatic Life (Non-Supporting), Recreation (Supporting), Irrigation (Supporting), Livestock Watering and Wildlife (Supporting)
Causes	Alteration in stream-side or littoral vegetative covers, Sedimentation/Siltation
Sources	Grazing in Riparian or Shoreline Zones

Table 6-41. Permit Limits for Taft Youth Development Center WTP.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Al (T)	All Year	0.75	mg/L	DMax Conc	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	mL/L	DMax Conc	Monthly	Grab	Effluent
TRC	All Year	0.019	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	40	mg/L	DMax Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Monthly	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Monthly	Grab	Effluent

Table 6-42. Permit Limits for Taft Youth Development Center WTP.

EFO Comments:

Facility issued 2nd NOV on 11/28/05 for sediment flowing into Bee Creek due to backwash sedimentation basin overflow. This facility is on the same grounds as TN Department of Correction SE Regional Facility but is administered by the Department of Children's Services. It discharges to Bee Creek, which is designated as High Quality Waters. New Operator at this WTP.

TN0079103 Smithville Water Treatment Plant

City: Smithville
County: Dekalb
EFO Name: Cookeville
Issuance Date: 7/13/06
Expiration Date: 9/29/09
Receiving Stream: Unnamed tributary (Short Creek) to Center Hill Reservoir
HUC-12: 051301080201
Effluent Summary: Filter backwash and/or sedimentation basin washdown from Outfall 001
Treatment system: Pax-XL 9 and aluminum for coagulant, caustic 50% for pH and alkalinity, and sodium fluorosilicate

Segment	TN05130108090_0999
Name	Misc Tribs to Center Hill
Size	78.8
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Recreation (Not Assessed), Irrigation (Not Assessed), Fish and Aquatic Life (Not Assessed), Livestock Watering and Wildlife (Not Assessed)
Causes	N/A
Sources	N/A

Table 6-43. Stream Segment Information for Smithville Water Treatment Plant.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Al (T)	All Year	10	mg/L	DMax Conc	Monthly	Grab	Effluent
Fe (T)	All Year	10	mg/L	DMax Conc	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	mL/L	DMax Conc	Monthly	Grab	Effluent
TRC	All Year	1	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	40	mg/L	DMax Conc	Monthly	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Monthly	Grab	Effluent

Table 6-44. Permit Limits for Smithville Water Treatment Plant.

EFO Comments:

Iron, manganese and turbidity, removal gravity filter plant

TN0079006 Sparta Water Treatment Plant

City: Sparta
County: White
EFO Name: Cookeville
Issuance Date: 10/02/06
Expiration Date: 9/27/09
Receiving Stream: Calfkiller River at approximate mile 15
HUC-12: 051301080201
Effluent Summary: Filter backwash and/or sedimentation basin washdown from Outfall 001
Treatment system: -

Segment	TN05130108043_1000
Name	Calfkiller River
Size	18.7
Unit	Miles
First Year on 303(d) List	-
Designated Uses	Fish and Aquatic Life (Supporting), Livestock Watering and Wildlife (Supporting), Industrial Water Supply (Supporting), Irrigation (Supporting), Recreation (Supporting)
Causes	N/A
Sources	N/A

Table 6-45. Stream Segment Information for Sparta Water Treatment Plant.

PARAMETER	SEASON	LIMIT	UNITS	SAMPLE DESIGNATOR	MONITORING FREQUENCY	SAMPLE TYPE	MONITORING LOCATION
Al (T)	All Year	10	mg/L	DMax Conc	Monthly	Grab	Effluent
Fe (T)	All Year	10	mg/L	DMax Conc	Monthly	Grab	Effluent
Flow	All Year		MGD	DMax Load	Monthly	Instantaneous	Effluent
Settleable Solids	All Year	0.5	mL/L	DMax Conc	Monthly	Grab	Effluent
TRC	All Year	1	mg/L	DMax Conc	Monthly	Grab	Effluent
TSS	All Year	40	mg/L	DMax Conc	Monthly	Grab	Effluent
pH	All Year	6.5	SU	DMin Conc	Monthly	Grab	Effluent
pH	All Year	9	SU	DMax Conc	Monthly	Grab	Effluent

Table 6-46. Permit Limits for Sparta Water Treatment Plant.

EFO Comments:

None.

February 28, 2007 Newspaper Article:

<http://www.spartaexpositor.com/newsdetail.asp?ArticleID=1662>

Is water capacity threatened? (Expositor)

Rumors had begun to circulate the community about City of Sparta's water supply after public works director Ross Fann announced several feet of sludge would need to be removed from the bottoms of the vats that hold approximately 4 million gallons. Fann made the announcement during a recent meeting of Sparta Board of Mayor and Aldermen about the problem at the water plant, as well as explaining the procedure he would be using to remove the accumulated sludge. During a Thursday interview with Sparta Mayor Tommy Pedigo, he said he wanted to assure the community the quality of

the water has not been compromised. However, he elaborated about the sludge and what actually led to the buildup. Pedigo said water enters the plant from the river and specialized equipment separates the water from the silt. The water sits in the 12 “vats” and allows the silt to settle to the bottom. Then, paddles at the bottom of the vat move the silt into a trough. Specially designed slats, which slide back and forth, then move the silt out into a drying area. “Apparently those things broke,” said Pedigo. “The only problem is you just can’t leave it alone. It’s eventually going to fill up.” Pedigo was asked if the problem would endanger the quantity of the water supply, such as in the case of a structure fire. He said “yes” there was a capacity problem, but “no” there was not a problem with the amount of the water. That issue was more thoroughly answered with a tour of the water plant where Fann explained the process. A tour of the 30-year-old water plant showed half the vats were empty. Fann said the water quantity is not affected by the empty vats. The water processing must simply run more hours per day than usual to fill the tanks. Boards run lengthwise across the bottom of the vats. These boards are connected to a large chain and pulley. As the chain mechanism turns, the boards pull the silt backward into a valve that sends it into a washbasin. However, Fann said he discovered the chains were broken when city workers began to lower the water level to remove the sludge. Fann hopes to have the sludge completely removed this week from the side that is now empty. In addition, the chains must be repaired before the water can flow back into the vat. Then, the other half will be emptied, the sludge removed and any necessary repairs will be made. “One of the problems we found that we had was nobody was in charge,” said Pedigo, as he talked about the problems Fann has discovered just since being appointed as public works director three months ago. “Nobody was really taking responsibility as far as on-the-site responsibility.” Former utilities manager Wayne Rogers retired approximately two months ago. Rogers supervised the electric, water and sewer departments. Now, Fann has been named to the newly created position of public works director and oversees the water, sewer and street departments. L.R. West was recently hired as the electric system director. “If you go into a water plant, you should see something that looks like a nuclear plant,” said Pedigo. “It should be spotless. Something you’re going to see when you go down there is something that’s been ignored. When I talk to employees about this, they say, ‘We told our superiors about this years ago, and they ignored it.’” Pedigo said Tennessee Department of Environment and Conservation’s Nashville office was contacted about the sludge removal. He said city officials were told the sludge could be land-applied. “Because it’s set in water so long it looks like real thin concrete – it’s a white color,” said Pedigo. “All it ends up being is basically sand and water.” According to Pedigo, state officials said the sludge could be put on an open field where it would become part of the land again. City officials then began dumping the sludge at the industrial park. Pedigo said an unidentified person called the state and told officials the city was dumping sewer at the industrial park. Then, representatives from TDEC’s Cookeville office came to Sparta to investigate the complaint and found the city was only dumping the sludge. The TDEC representatives agreed the city could land-apply the sludge, but said they could not “just open up the valve and run it directly off onto the ground.” The sludge had to be “spread” across the ground. State officials then told city officials to stop the dumping process. State officials then went to the water plant to talk with personnel about the matter and, according to Pedigo, “found all these things that needed to be corrected.” Pedigo said TDEC sent him a letter stating five problems had been found that needed to be remedied or the city “would be” in violation. The state’s deadline is April 13. However, Pedigo said he gave water plant officials his personal deadline of April 1. “Nowhere have we ever been cited for the quality of our water,” said Pedigo. Fann said the water plant is manned 16 hours a day. The lab will be renovated as part of the upgrades.

Pedigo specifically pointed out the “look” of the lab, which he said is in much worse condition than the lab at the sewer plant. However, he again emphasized the safety aspect. “No one’s water has been jeopardized in any way from the standpoint of the quality of water,” said Pedigo. The mayor stressed the water plant crew is making the needed changes, but he said something seems to keep “popping up” every few days. “When you turn over a rock thinking you’re going to find worms to fish, you turn over a rock and find a rattlesnake,” said Pedigo.

<http://www.spartaexpositor.com/newsdetail.asp?ArticleID=1662>